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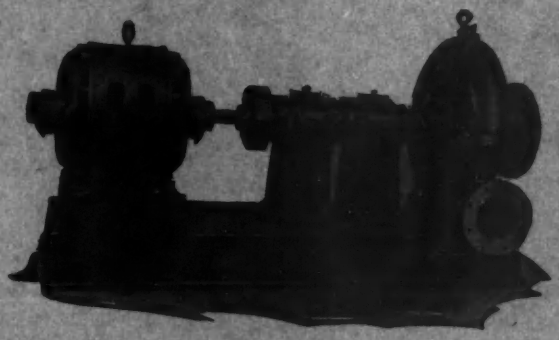

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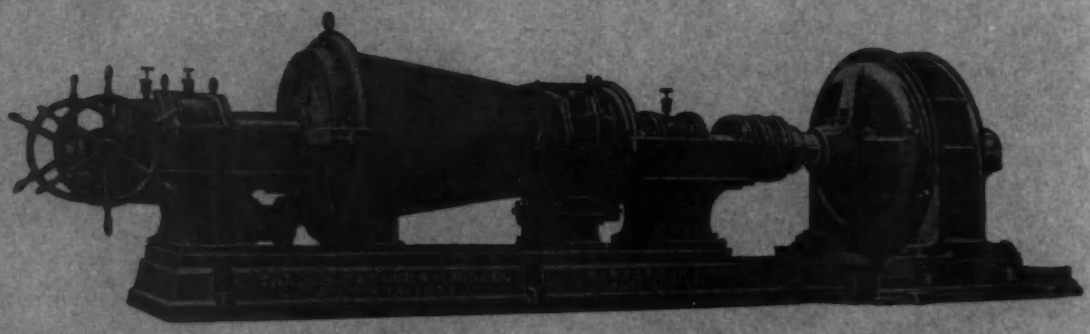

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-THIRD YEAR

Published Every Thursday by the
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PAPER

Vol. LXXXI. No. 11 Thursday, September 10, 1925

The Magazine of the Paper Industry

Whalen Pulp & Paper Reorganization Planned

J. R. Harbeck, on Behalf of Debenture Stockholders, Submits Comprehensive Scheme for Consideration—Addition and Extension to St. Lawrence Paper Mills Ensures Greatly Increased Output — Laurentide Mills Increase Timber Reserves—Transplant 6,000,000 Trees in Past Year

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., September 7, 1925.—An eleventh-hour plan for the reorganization of the Whalen Pulp and Paper Company, submitted on behalf of the debenture tockholders by J. R. Harbeck, is now being considered, the courts having granted for this purpose a 30-day delay of the liquidation sale which was to have taken place on August 31 last. The plan put forward by Mr. Harbeck is made subject to the entire undertaking, properties and assets being purchased by a trustee on behalf of the first mortgage bondholders, debenture stockholders and unsecured creditors, and transferred to a new company in consideration of the issue at 6 per cent twenty-five year first mortgage bonds of the new company in an amount equal to the presently outstanding Whalen Pulp & Paper first mortgage issue of $10,000,000; the issue of 7 per cent 10 year sinking fund gold notes, a general obligation second only to the first mortgage in an amount between $2,500,000 and $3,000,000 to provide net working capital of not less than $1,500,000 after the discharge of current obligations; the issue of 6 per cent non-cumulative preferred stock in an amount equal to the par value of the outstanding debenture stock; and the issue of common stock in such amounts as approved by the signees of the plan. Under the plan the first mortgage bondholders will receive par for par of the new bonds; the debenture stockholders will receive par for par in the new preferred stock and the unsecured creditors will receive 5 per cent of their claims in common stock based on its book value, in the estimate of which goodwill is not to be taken into consideration. The signee agrees to purchase the new notes to the amount of $2,500,000 (minimum) to $3,000,000 (maximum) at 90 and interest, in consideration of being ceded the common stock issue. The plan provides that the small issue of British Columbia Sulphite Company first mortgage bonds; all receivers' liabilities; balances due on inventory purchase; secured bank loan and secured and preferred creditors claims be paid in full in cash. This not to apply to the bank loan secured by deposit of Whalen Company first mortgage bonds.

St. Lawrence Paper Mills, Limited, is just completing additions and extensions to their plant here, including a modern sulphite mill of 100 tons daily capacity. The underlying object of this addition was to give the plant a complete self-contained unit, well arranged and equipped with the highest type of modern machinery. It is announced that all surplus sulphite not required for the company's own operations has been sold under contract to the Wayagamack Pulp and Paper Company. The St. Lawrence news print output is 150 tons per day.

The second annual financial statement of the St. Lawrence Paper Mills, covering the twelve months ended June 30, 1925, is incorporated in a circular just issued announcing an issue of $900,000 series "B," first mortgage, twenty-year, 6 per cent, sinking fund gold bonds. The issue is being offered at 98 and accrued interest, to yield the investor about 6.20 per cent. The balance sheet as at June 30, 1925, is drawn up to show the position of the company after giving effect to this financing.

The annual statement of the Laurentide Company now in the hands of the shareholders, shows a decline in net profits. President Chahoon, in his comment accompanying the statement refers to the new mills being built by various companies and adds a note of caution. The Laurentide mills, he says, have been operating during the past twelve months to 93 per cent capacity, and he goes on to declare that "there is every indication that this normal rate of consumption will be maintained for the coming year, but there are no indications that it will be increased sufficiently to meet the development programme of the industry. Therefore, your directors deem extreme conservation advisable."

The operating profits for the year were down about $400,000 or some 13 per cent. The company, however, was able to show a surplus over dividend requirements with 6.6 per cent earned on the capital stock as compared with 7.2 per cent two years ago. The working capital position of the company showed a marked improvement, and a gain of $1,200,000 during the past two years, the net at the end of June being $7,306,727. Operating profits were $2,631,394 as compared with $3,058,350, and total income $3,061,663 as against $3,551,590. Depreciation account was about $378,000 less than last year, but higher than the previous year. Net profits stood at $1,190,000 against $2,084,000 the previous year, leaving a surplus of $181,975 after payment of the 6 per cent dividend which calls for $1,728,000.

More important probably to the shareholders than the actual statement of earnings is an assurance given by the President in regard to the company's position of an adequate supply of timber limits. This has been a point against which criticsm has been directed in the case of the Laurentid Company for several years past, and this point received greater emphasis after the destructive fires in the the St. Maurice Valley during 1923. Mr. Chahoon, however provides a very reassuring statement on this point when he declares that the company increased its limits during the past year, and is now in a position to provide from its own limits pulpwood sufficient for the company's present rated capacity over a period of forty years, without assistance from outside sources. The statement of Mr. Chahoon on this point reads as follows: "Your directors have deemed it advisable during the past year to further increase the company's timber reserves and feel that these reserves now stand at any amount, without wood from other sources, sufficient to supply the mills at their present rated capacity for some forty years. In addition to these reserves, they are going on with the reforestation programme, having transplanted this past year about 6,000,000 trees"

Philadelphia Trade Outlook Greatly Improved

Book Paper Continues To Lead in the Demand—Local Dealers Solving Their Own Problems in Securing Supplies of Kraft—Coal Strike Expected to Stimulate Demand for Paper—Philadelphia Waste Paper Merchants' Association Discusses Rag Grading Situation.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 7, 1925.—Early days of September brought a more bountiful supply of orders to the majority of the paper distributors and practical evidence of improved markets for many grades. While the larger portion of the distribution houses reported a betterment in demand there were a few dealers who experienced slight changes, most of these being among the fine paper houses where a limited field is covered and where a specialized contract business is conducted among larger corporations. These firms reported that the larger corporations are buying in hand to mouth quantities and mostly cheaper grades of papers.

Book Papers Still Hold Fine Paper Markets

Though there was some improvement in the demand for bonds, ledgers and other grades of writings the fine paper market still is dominated by a continuance of the demand for all grades of books and coated papers among the publishing industries. Card boards too showed an improvement but were not as active as could be desired. The prices of M. F. Books were quoted at ¼ cent per pound less, F. O. B. from the Mills, than the deliveries of last month with the cut emanating from a Pennsylvania manufacturer, but generally the quotations hold to firm levels of the summer.

Kraft Market Uncertain

While the mills are uncertain in their deliveries and are unable to make shipments on Krafts within four to six weeks the local dealers are solving their own problems of securing orders from home markets. The coarse paper dealers who are low in stocks and require urgent deliveries are seeking the assistance of their competitors in meeting orders. Rather than await the mill shipments they are able to secure any quantity of stock at lower prices than those which the manufacturers ask from their associates caught with larger supplies of Krafts on hand and purchased at the lower levels of the price warfare days when quotations were considerably below those now given at the mill. Many houses have more of these papers on hand than they can dispose of and are glad to be able to reduce stocks through accommodation of their fellows in trade circles caught in the present shortage of mill supply. Water finished butcher fibres, always more or less subjected to keen cuts, now are reduced to even lower quotations and many dealers believe the mills must be manufacturing at a loss because of the present extremely low values. Paper bags which in the spring months and early summer were among the paper stocks that were keenly cut have been advanced and the market is holding more steady than at any time this year.

Fall Golf Tournament To Be Held

Philadelphia paper trade golf enthusiasts are now engaged in preparation for the coming Fall Tournament to be held September 15 and 16 on the grounds of the Manufacturers Country Club at Orland, Pa., near the city limits. Although the fall event is arranged by the Philadelphia Paper Trade Golf Association it will be open to other trade associates from all parts of the country who are invited to participate in this 12th annual outing on the links and numerous invitations have been sent out by the committee in charge of arrangements and numbering the following members: Chairman Arthur B. Sherrill, E. A. Weihenmayer, Irwin Megargee, Allen E. Whiting and David Lindsay, Jr.

The plans for the competitive play will be along the lines of those of last fall. On Tuesday morning there will be held the qualifying rounds in eights, all eights to play on handicap in an 18 holes medal play, scratch and the lowest eight qualifying as the championship division, other eights qualifying according to their ratings. The Knickers Handicap, 18 holes medal play with players selecting their own handicap, will also be scheduled for Tuesday morning. In this contest a blind number will be drawn at luncheon between 70 and 80, the player making nearest to that number being eligible to the medal award in the low net score. On Tuesday afternoon there will be match play in classes. On Wednesday morning the program calls for match play in classes and continued play for the consolation prize by the beaten fours. In the afternoon the final rounds for championship classes will take place. Arrangements have been made to convey the visiting golfers from the Reading Station at Jenkintown by bus directly to the club house on both mornings, connections to be arranged with the trains leaving the Philadelphia Terminal of the railroad company at 7:25 Standard Time. The annual dinner will be held at the Club House on Tuesday evening.

Coal Strike Expected to Stimulate Buying

Local dealers and manufacturers believe that the coal strike and the possibility of a long drawn out struggle between the miners and operators over the wage dispute will materially stimulate the purchase of paper in anticipation of fuel shortage at the mills. However the commercial travelers in the coal region report that there is little likelihood of a prolonged strike as the miners are not financially situated to carry out an indefinite lockout and with the many substitutes in fuel available in these days of oil burning and other devices for the supply of energy and heat, there is not much danger of a serious handicap to any line of industry, in the prospective inactivity ot the anthracite mines.

Box Manufacturers To Convene

Paper Box manufacturers and Supply men enrolled in the Central and Eastern Divisions of the National Association of Paper Box Manufacturers will meet in annual convention September 22 and 23, at Reading, Pa. These Divisions comprising the box makers in New York, Pennsylvania, New Jersey, Delaware, Maryland and other adjoining states will gather at the Berkshire Hotel for enrollment on September 22 and then will adjourn to the Eagle's Mountain Home, at Mt. Penn, for the remainder of the day to carry out the business and social program. President Frank Stone, of the National Association, and head of the Jesse Jones Paper Box Company, Philadelphia, will be the principal speaker at the business meeting of the joint Divisions. Other business features will be the round table discussions following addresses by Marketing Expert George F. Barber and Commissioner Howard P. Beckett. In the afternoon of the 22nd there will be a program of sports and baseball between the teams of the Eastern and Central Divisions to be closed with a dinner in the evening. On Wednesday during the joint sessions at the Berkshire practical talks on selling and production will be given by prominent box makers and in the evening a banquet will close the two days meetings. Secretary Frank S. Records, of the National Association, who has been vacationing in Indiana, will return to headquarters here this week in order to perfect arrangements for the combined convention and for the Southern Division Convention to be held next month at a date not yet determined. The Western Division will meet in January, in Chicago.

Waste Merchants Association Meets

Having postponed the early summer meeting the Philadelphia Waste Merchants Association, comprising the wholesale stock dealers of the city, held the belated quarterly session on Thursday evening in the combined social and business program. The most important of the evening's measures was the action taken on the

rag grading situation. Chairman John A. Murphy of the Grading Committee, holding the platform, told of the efforts that will be made during the coming season to perfect the standards of rag packing in the Philadelphia trade. In an open forum discussion he placed before the members of the Rag Stock Division the question of devising some means for meeting the requirements of the mills on the matter of proper rag grading, stating that some of the smaller dealers had not conformed to the rules and regulations which the committee had set forth last year to this end. He urged the dealers for the good of the Quaker City industry to follow out these rules, otherwise the mill business would be diverted to other cities where there was strict conformity to similar requirements in rag packing. In order to give the smaller dealers an opportunity for hearing their side of the question and to have them submit suggestions for any invitations that would be helpful to them he called on these members for ideas that could be developed into trade promotion factors. It was decided that another meeting of the Rag Division be held next Wednesday for further action in the perfecting of the standards of rag packing in order to meet the mill requirements on a stricter basis of grading. President Evan G. Badger, of the Association, presided at the dinner with 30 members joining in the social features of a seasonable banquet and musical program, Secretary William J. McGarity reviewed the steps taken at the last gathering in his report. There was admitted to membership A. Kravosky, 621 Christian street, engaged in the rag stock business.

Paper Trade Association Activities

With the first of the fall meeting of the Philadelphia Paper Trade Association there will be discussed the newest of trade promotion activities which will become part of the program for the coming season and an entirely original factor insofar as association activities are concerned. When the members hold their meeting this Thursday, at the Bourse Restaurant, there will be introduced the latest of innovations in the form of a series of trade educational talks by paper men for the benefit of their allied associates in the printing industries. During the winter of 1924-1925 the Typothetae gave similar talks throughout the season on printing and its relation to paper and this year the paper men will reciprocate by discussions pertaining to paper as viewed from the practical angle of the salesmen and how representatives of the paper house can help the printer and other details of the paper industry of mutual benefit. As Chairman of the Joint Committee, representing the Typothetae and the Paper Trade Association, George W. Ward has placed before the Typothetae the plans of the paper dealers to hold a series of discussions with the paper men occupying the platform in the educational program and the attentance made up of printers and allied trade associates. Last year more than 75 paper salesmen were in nightly attendance at the series of meetings held under the auspices of the Typothetae and it is expected that an even larger number of printers will take advantage of the opportunity of learning more about paper and its relation to their own industry. The idea for these educational gatherings originated with President Norbert A. Considine of the Paper House of Pennsylvania and formerly Chairman of the Trades Relation Committee of the Philadelphia Paper Trade Association and it was the zeal with which he carried out the practical application of the idea that brought so successful a conclusion to the educational campaign.

T. G. Mangan to Go to Wilder Mill

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., September 8, 1925.—Thomas G. Mangan, resident engineer at the Fort Edward plant of the International Paper Company, has been appointed manager of the International Company's mill in Wilder, Vt. Mr. Mangan has been connected with the Fort Edward mill of the I. P. Co. for the last seven years as resident engineer and is one of the most popular members of the local staff. He will assume the managerial duties at the Wilder Mill in the near future. His successor, at the local plant has not yet been announced.

Official Ballot for Papermakers' Election

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 8, 1925.—The possibility of two elections being necessary to elect a president of the International Brotherhood of Papermakers vanished during the week when Frank P. Barry, of Ballston Spa., N. Y., announced his withdrawal from the race for the office of president. Mr. Barry was nominated for president and was also renominated for vice president in the American section which office he now holds, and to which he will seek re-election. The withdrawal of Mr. Barry removes the chief obstacle in the path of M. H. Parker, president of the union, who is a candidate for re-election. The presidential race has now nardowed down to two candidates, President Parker and W. R. Smith, of Kalamazoo, Mich. Mr. Smith is quite well known through Northern New York and the New England States, having been at one time a member of the executive board and at the present time being employed as a general organizer.

Frank Lynch, of Bellows Falls, Vt., nominated for the office of secretary by the Carey, or insurgent faction, has declined to run, leaving the present Secretary, Matthew Burns, opposed by W. W. Far, of Mechanic Falls, Me., and Clinton Gagnon, of Livermore Falls, Me. The names of two other Carey candidates, George Astley, of Holyoke, Mass., nominated for vice president, and Ray Genter, of DeFeriet, nominated for the office of treasurer, will not appear on the official ballet to be used in the October election through failure on the part of the two men to reply to a communication sent by registered mail by Secretary Burns.

The official ballot to be used in the coming election will be as follows:

President—M. H. Parker, of Albany; W. R. Smith, of Kalamazoo, Mich.

Treasurer—Archie Hook, of Chicago (unopposed.)

Secretary—Matthew J. Burns, of Albany; W. W. Farr, of Mechanic Falls; Clinton Gagnon, of Livermore Falls, Mt.

American vice-presidents—(four to be chosen)—Frank P. Barry, of Ballston Spa; Edward Brockway, of Felts Mills, N. Y.; Arthur Huggins, of Holyoke, Mass; Samuel Witbeck, of Niagara Falls; George Noe, of Brooklyn; Louis Ogdon, of Glens Falls; George J. Schneider, of Appleton, Wisconsin; Simeon Weir, of International Falls, Minn.

Canadian vice-presidents (two to be chosen)—Arthur D'Aoust, of Ottawa; Harry Ernest, of Hull; Alfred Judd, of Iroquois Falls; A. F. McLeod, of Espanola; Grady Pickett, of Fort William.

Delegates to the American Federation of Labor (two to be chosen)—Frank F. Barry, of Ballston; M. H. Parker, of Albany; W. A. Smith, of Kalamazoo.

Delegates to the Dominion Trades and Labor Congress (one to be chosen)—Arthur D'Aoust, of Ottawa; A. F. McLeod, of Espanola.

Auditor—David S. Larner, of Norwood, N. Y.

The make up of the ballot leaves but three of the so called insurgent candidates on the ticket, these being Edward Brockway, Louis Ogden and Alfred Judd.

Chillicothe Paper Co. Makes Paper Exhibit

CHILLICOTHE, Ohio, September 8, 1925.—The Chillicothe Paper Company is making a showing of the papers it manufactures at the First National Bank.

In line with its policy of boosting home-manufactured products, the First National Bank has arranged this interesting exhibit. For two weeks one may drop in the bank and examine the different grades of paper made by the Chillicothe Paper Company, such as Logan Bond, Adena Bond, Logan Cover, Special Bond, Logan Writing, Logan Offset and Logan Ledger. The various grades are also shown in various colors.

Some stockholders have viewed the exhibit, which was a revelation to them, for few local people realize the high grade line of paper made here. A sample of Logan Cover carries the imprint of the Sears, Roebuck Catalogue, the requirements for which are very exacting.

Chicago Expects Improved Demand for Paper

Feeling General That Conditions are Bound to Improve Following the Holiday Period—Quiet Week in Fine Papers But Outlook is Better—Coarse Paper Market Fairly Satisfactory, With Prices Unchanged—Waste Papers Show Slight Improvement.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., September 8, 1925.—Practically everyone in the business world seems pleased to bid "good bye" to summer and its reactionary regime of conservatism. Eyes, minds and energies have been concentrated on the period following, the Labor Day holiday. Generally speaking, the summer season, whose business days are considered closed with today, has been quiet. There have been a few outstanding exceptions, but business heads have anxiously watched the reports of each day's activities, eagerly seeking a sign, spelled with dollars and cents, indicating a change for the better. The search for improved conditions has continued until today. Now, the probationary period is past; starting today, Tuesday, September 8, business "must" improve. It seems that this spirit is permeating the very atmosphere; everybody is talking it.

Since this feeling is general, conditions are bound to improve. It is the same old story given by the bill collector: You pay me so I can pay my creditors, so they can pay theirs, so that the last named can again pay you. It is almost certain that business houses will immediately put on campaigns that will call for large quantities of business stationery, price lists and advertising matter. Some of the larger commercial establishments in Chicago have already arranged for these campaigns, according to job printers in this city. During the middle of August, employees of printing establishments were requested by their employers to take brief forced vacations, due to the quietness of the business world. Before the month ended, a number of these very shops sent for their help to turn out work for such firms whose plans call for activity immediately after the holiday.

Quiet Week in Fine Papers

The fine paper houses of Chicago reported the week just ended as quiet. Asked for an explanation, similar answers were forthcoming from those interviewed, namely: "Vacations have never interfered as much with business as they have this year; sales forces and buying organizations seem to have been disrupted all summer. Marking time has been the order of the day."

These same men stated, however, that this week will witness an improved condition, because the vacations will be over, sales forces will be back at their desks and with renewed energy, resulting from the open spaces and the necessity of the lean days of summer, business will be gone after in a spirit that is bound to bring returns. Fine paper dealers are expecting a much better season following Labor Day. Prices remain unchanged.

Coarse Paper Market Continues Healthy

The coarse paper market has been fairly good most of the summer. Dealers and manufacturers state that they are meeting with no complaints on price and that it is getting much easier to close orders now than has been prevalent for some time. One prominent dealer went so far as to say that, while prices remain the same as they have been since the slight increase early in August, books of the firm show better profits.

Paper specialties of all kinds have had an exceptional year. More people have practically lived in their automobiles this year than ever before and paper specialties for campers and picnickers have been real active all season. A material dropping off in the demand is now anticipated. Tissues are showing slight signs of activity. As a whole, the coarse paper business present a healthy market. Prices are firm and unchanged. Any price change under existing conditions must be upward.

Old Paper Slightly Improved

There is very little doing in the old paper stock market, but prices are slightly better than they have been for months. Regular paper stock houses report a slight improvement, although retailers complain that business is poor. Boxboard mills do not seem to be in the market, and little change in conditions is expected before the end of the month.

Transo Envelope Co. to Build

At an estimated cost of $55,000, including equipment, a 65x240 foot one-story plant will shortly be built and equipped by the Transo Envelope Company, envelope manufacturers operating in the northwest section of Chicago at 3512 North Kimball Avenue.

Pacific Board Co. To Start Soon

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 8, 1925.—The Pacific Straw Paper & Board Company is rushing the installation of machinery in its new factory on the Cowiltz river between Kelso and Longview, Washington. According to present plans operations will start this fall.

The company began construction of its plant a year ago and the modern fire-proof building and equipment will represent an investment of more than $200,000. Charles Schaub is head of the company and R. Clayton, a man of many years' experience in the operation of straw paper factories in the east, is manager of the factory.

The straw for the manufacture of the products will be brought by boats from the Willamette Valley and points on the Columbia River, and the company has a supply of limestone in Skamania county which can also be brought by water. The Pacific Straw Paper and Board Company's plant will turn out about 30 tons of straw board daily and will employ about seventy-five men.

The tract owned by the company occupies about fifteen acres, five of which will be appropriated to the use of this first factory unit, and further expansion will occur as soon as conditions justify. The buildings are of reinforced concrete with curtain walls of hollow tile and containing most modern facilities for light and ventilation.

There will be the two 150-horsepower boilers. All of the machinery will be electrically driven. Fifteen Fairbanks-Morse motors varying in size from 4 to 150 horse power will be used.

American Writing Reorganization Plans Advanced

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., September 7, 1925.—President S. L. Willson of the American Writing Paper Company expected the past week to receive the decision on the appeal of the Company from the Federal taxes amounting to a large sum but was disappointed. However, he has been assured that the decision would be forthcoming this week. The plans for the reorganization of the Company which have been considerably advanced have been halted until this matter is disposed of. As soon as that is out of the way the detailed plans for the reorganization are expected to be announced.

President Willson, who is receiver for the company as well was in Washington last week and held a long consultation with Assistant Commissioner of Internal Revenue Gregg. Congressman Allen T. Treadway, of this district, accompanied him. The company, through its representatives, claimed that the assessment was unjust, but it is understood that they were willing to accede to a compromise settlement in order to speed up the reorganization plans that are to follow. There are so many cases to be heard that a long delay would doubtless have ensued if a special appeal had not been made by company representatives.

P. H. GLATFELTER CO.

Paper Manufacturers

SPRING GROVE, PA.

July 16, 1925.

The Bird Machine Co.,
South Walpole, Mass.

Gentlemen:

We desire to take this opportunity of advising you that we have found the Bird Screens and the Vickery Felt Conditioners very satisfactory for conditions as they are at this mill.

We installed the first Bird Screen on trial but without much enthusiasm. We now have all five of our machines equipped with Bird Screens which are producing one hundred tons of paper daily.

Same may be said of the Vickery Felt Conditioner. After a short trial of one Conditioner we now have seven in operation.

There is only one conclusion to be drawn from this statement of facts.

With kind regards, I am

Yours very truly,

P. H. GLATFELTER COMPANY.

W. S. McClellan

WSMc/F

Paper Demand Reported Improved in Toronto

Increasing Activity in General Lines is Reflected in the Requests for Paper — Pulp and Paper Mills Handicapped by Low Water in Welland Canal—Canadian Pulpwood Association Has Splendid Exhibit in Machinery Building at Canadian National Exhibition

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ontario, September 7, 1925.—Business in the paper line has picked up considerably with the advent of September and there has been a fairly good trade during the past few days. There is a slight improvement all around in other branches and this has an appreciable effect on the paper line. Scores of outside consumers of paper have been in the city during the past few days attending the Canadian National Exhibition, which always draws visitors from all parts of the Dominion. Jobbers have called in their salesmen from the road and they have greeted many customers at the warehouses. The paper box industry is picking up somewhat and the card board mills are getting busier. The manufacturers of envelopes and school supplies have been rushed for some time but whether the present activity will keep up during the fall months cannot be stated with any degree of assurance. There is certainly a better feeling among the majority of the members of the paper trade than there has been for some weeks but whether the improvement will be continued is the perplexing question at the present moment.

Many Tenders for Pulpwood Limits

The tenders for the right to cut pulp wood and other classes of timber on the east and west sides of Lake Nipigon, Thunder Bay district, the watershed of the Kapuskasing river district of Cochrane, the watershed of the Mattagami river, district of Cochrane, and the watershed of the Groundhog river district of Cochrane closed this week. It is understood that a number of bids have been received by the Department of Lands and Forests.

Mills Suffer From Low Water

The pulp mills and to some extent the paper mills of Thorold have been handicapped owing to low water in the old Welland canal. Merritton has also been affected. The action of the federal government in shutting off the feed to raise the water level in the new canal in order that navigation might not be entirely tied up has caused a serious state of affairs. Mayor McCleary, of Thorold, has suggested a joint action of the municipal councils of Thorold, Merritton and St. Catharines in which strong recommendations should be made to the government of Canada regarding the local water level conditions.

Canadian Pulp Wood Association Exhibit

The Canadian Pulpwood Association has a splendid exhibit in the Machinery building at the Canadian National Exhibition, which is attracting much attention. Demonstrations of rossing wood, both by hand and machine are given, which afford the many onlookers some idea of the importance of the pulp wood industry to the country. The booth is in charge of Major T. A. MacLean, special representative of the Canadian Pulpwood Association, who is interested in pulpwood being connected with the Greening Lumber Company, of Greening, Que. The Association is carrying on much publicity work in various parts of the country against the proposed export embargo on pulp wood. In the centre of the booth is piled some lumber and over it is the placard "Rough sawn lumber. No agitation for an embargo on this product, yet it comes from the same tree and in its production distributes no more money in the community in which the operation is carried on than would an operation for sap—peeled or rossed pulp wood." The same observation is made in reference to a pile of railway ties. Much literature is distributed answering several arguments which have been advanced by the exponents of an embargo, James Thompson, of the Thompson and Heyland Lumber Company, who are large exporters and handlers of pulpwood, Toronto, is vice-president of the Canadian Pulpwood Association, which is an organization of Canadian citizens and companies engaged in the production of pulp wood who believe in the right of its members to sell their product in the best markets of the world.

Aeroplane Patrol Does Good Work

The recent hot weather was responsible for several bush fires in Ontario but none of them did any great amount of damage or attained any magnitude, according to E. J. Zavitz, chief forester for Ontario. The firt patrol has been able to cope with any outbreak effectively. The airplanes used by the Department of Lands and Forests have been of great service in detecting and combatting fires. Figures quoted by Hon. James Lyons, Minister of Lands and Forests at the last session of the provincial legislature, showed the great economy effected through the use of the aerial patrol which now includes twenty hydroplanes, two of which are the fastest machines in the world.

Investigating Projects in Nova Scotia

J. G. G. Kerry, of Toronto, President of the Canadian Paperboard Company, will have mills at Frankford and Campbellford, Ontario and in Montreal, has returned from a business trip to Nova Scotia. He looked over the plant of the Bear River Pulp Company and into the possibilities of power development on the Bear river at the mouth of which stream the plant, which is not now in operation, is located. Later, Mr. Kerry visited Halifax where he saw Hon. E. H. Rhodes, Premier of the province, and others and discussed the situation. No announcement followed the conference but it is believed that Mr. Kerry's interest in the project presages important developments at an early date. It is understood that Mr. Kerry while in Nova Scotia devoted some attention to other pulp propects which are in process of development.

Will Take Out Considerable Pulpwood

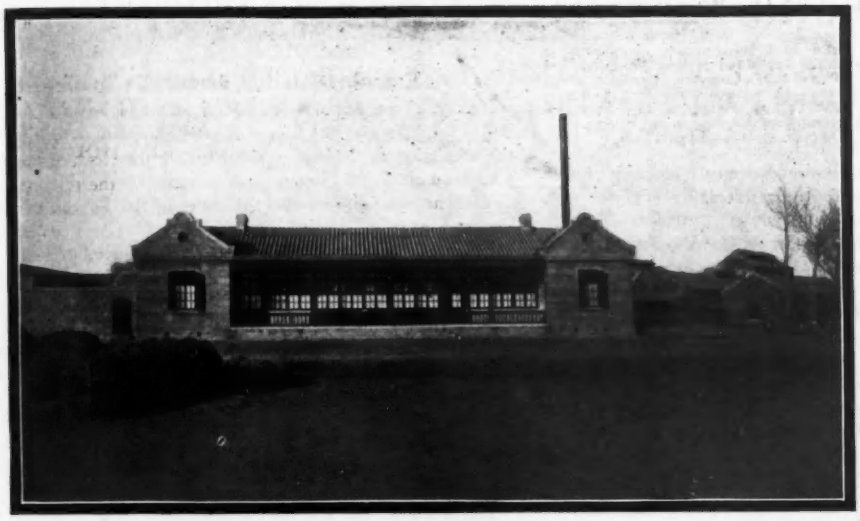
White & Plaunt, Limited, of Sudbury, Ont., who were recently granted a provincial charter, are carrying on a contracting business in pulpwood and railway ties. They have a contract for 11,000 cords of pulpwood for the Spanish River Pulp and Paper Mills. The wood is to be cut on the east branch of the Spanish river and in the spring has to be driven downstream and delivered to the Spanish Company on the main river. The officers of the new organization are W. B. Plaunt, president; E. D. White, vice-president, and F. W. Flemming, secretary-treasurer.

Mr. Gray Is Elected President

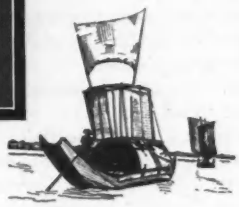
George R. Gray, Sault Ste Marie, Ont., who is woods superintendent for the Spanish River Pulp and Paper Mills, has been elected president of the Fort William Paper Company succeeding the late Col. Thomas Gibson, of Toronto. Mr. Gray is well-known throughout lumber and paper circles and was vice-president of the Fort William Paper Company. W. N. Hurlbut, of Dayton, Ohio, was elected to the board to fill the vacancy and also takes the vice-presidency. The other vice-presidents are P. B. Wilson and C. H. L. Jones, of Sault Ste Marie, Ont., and the directorate includes George H. Mead, of Dayton, who is chairman of the board; Sir Herbert Holt, J. S. Norris, T. H. Watson and H. M. Paterson. The company operates a news print mill at Fort William, Ont.

Port Alfred Paper Co. Buys Taylor Stokers

The Port Alfred Pulp and Paper Company, Limited, has purchased from the Taylor Stoker Company, Limited, of Montreal, three 9-retort, long Taylor underfeed strokers, for installation under three 819 H. P. boilers at its mill at Port Alfred, Quebec. H. S. Taylor, of Montreal, is the consulting engineer. These strokes are of the same type as are built in this country by The American Engineering Co., of Philadelphia.



Chin Hua Cardboard & Paper Mfg. Co., Tientsin



CHINA uses Dilts Beating Engines, which is an honor we highly appreciate.

Paper was first made in China and the process was crude and slow. But China, like her Western friends, appreciates that "paper is made in the beaters," and she now adopts more modern methods, and uses Dilts beaters.

We would like also to send some of our approved NEW TYPE Beating Engines to China. These fast circulating beaters are superior to others in their ability to handle dense stock, beat and mix very rapidly, dump quickly, and **they consume no more power** than ordinary beating engines.

You, too, should be interested in the approved Dilts NEW TYPE Beating Engines for your mill. Send for address of users, names of recent purchasers, and list of our unshipped orders. Remember—NEW TYPE.

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Trade-Marks Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

The following are trade-mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

BURRO—letter clips, written on a shield.

SUPERIOR—No. 212,100. The Paper Novelty Company, Green Bay, Wis. For paper napkins written on a shield.

EXCELSIOR—No. 212,099. Same as above.

CASTILIAN*No.* 212,992.. Blake, Moffitt & Towne, San Francisco, Calif. For toilet paper, paper napkins and paper towels.

SOFTEX—No. 215,949. Stevens & Thompson Paper Company, New York City. For toilet paper.

NUGGET—No. 217,511. The Robert Griffin Company, Jersey City, N. J. For wall paper.

SUNRAY—No. 217,135. Crown Williamette Paper Company, San Francisco, Calif. For raisin-tray paper.

SAXON—No. 215,829. Strathmore Paper Company, Mittineague, Mass. For bristol board.

BATTLE.—No. 215,648 Nennah Paper Company, Neenah, Wis- For bond paper.

BURRO—No. 211,667. The H. C. Cook Company, Ansonia, Conn. For paper clips, letter clips, file signals and index tabs.

BEESWING—No. 217,155. International Paper Company, New York City. For wax, writing and printing paper.

EARLY GEORGIAN—No. 217,452. Z. & W. M. Crane, Inc., Dalton, Mass. Ror writing paper and mailing envelopes.

News of the Boston Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 8, 1925.—The local trade enjoyed good business generally this week with the exception of the rag stock division which has had an off season. Business was brisk in most of the lines and showed a strong tendency to remain so for some time. There are those, however, who brand it as a "seasonal spurt" and who say that the normal fall business has not yet started.

There was a general feeling of optimism all along the line and with executives back at their desks and vacation periods practically over Boston is down to business again and is satisfied with its first week of September business. As a matter of fact books in certain houses show that this week went far ahead of the same period a year ago.

In addition to actual orders placed, the market was busy answering various queries on shipment dates, prices, etc. It would appear that stock in the field was at a low ebb and that jobbers would be forced into the market at any date now. Prices remain firm, no changes being announced during the week.

Kraft dealers admitted that the week's business was better than it has been for some time. The demand has been steady and the market is strong, throughout the coarse paper division right now.

The fine paper houses report continued good business with stock for engraved cards and social stationery and wedding announcements in great demand. These houses have actual business in hand that will keep them busy right up to January first, many of them admit.

The annual conference of the distributors of Crocker-McElwain papers will be held in Holyoke next week. Mr. Hall and Mr. Waite of John Carter Inc., will represent that house.

John Hurd, of the Storrs, Bement Company, has returned from a prolonged trip to England. He has many interesting trade stories. Jack Brewer of the same house reports good business in greeting cards and announcements, declaring that the house has many new offierings which are attracting the trade.

Frank Halloran, formerly with W. W. Claflin & Son, has severed his connections with that house and started in business for himself at 146 Summer street, specializing in white papers.

A new paper and twine jobbing house opened here this week operated by three young men who have left the Whitney Bros. Company. They are Ralph Bangs, Jacob Blume and Mr. Nelson. They are located at Washington street, North.

Examination for Junior Technologist

Receipt of applications for junior technologist will close October 10, 1925. The date for assembling of competitors will be stated on the admission cards sent applicants after the close of receipt of applications.

The examination is to fill vacancies in the Bureau of Standards, Department of Commerce, Washington, D. C., at an entrance salary of $1,860 a year. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to $2,400 a year. Promotion to higher grades may be made in accordance with the civil service rules.

Examination will be given in the optional subjects of leather technology, and textile technology.

Competitors will be rated on general chemistry and elementary physics; mathematics up to and including calculus; practical questions on each optional subject chosen; and education, training, and experience.

The work of the Bureau of Standards includes many branches of physics, chemistry, and engineering, such as mechanics, heat, optics, electricity, sound, metrology, metallurgy, radio, electrones, engineering (gas, electrical, mechanical, etc.) also industrial technology, including research and standardization, and offers valuable experience in these professions, combining as it does theoretical, experimental, and practical work.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customshouse in any city.

Bryant Paper Co. Re-Incorporates

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., September 8, 1925.—The thirty year charter of the Bryant Paper Company, issued September 24, 1895, terminates by limitation of law the same date this year. Articles of reincorporation have been filed by Secretary C. A. Fox with the county clerk, Ural S. Acker. The authorized capitalization is $6,300,000, of which $6,000,000 is common and $300,000 is six per cent preferred. Of the authorized capital, all the preferred and $5,000,000 of the common has been paid for and is now outstanding. The balance of the common is held in the treasury for future needs. Re-incorporation was authorized at a meeting of the stockholders, held July 28.

When the Bryant Paper Company was granted its first charter, the capital was placed at $125,000 common stock. Initial holders of the original stock, through the medium of stock dividends and the rights offered for the purchase of additional stock have been able to increase their holdings 40 times or 4000 per cent. For over 25 years this concern has paid a minimum cash dividend of 12 per cent annually.

Retires From U. S. Envelope Co. After 45 Years

[FROM OUR REGULAR CORRESPONDENT]

ROCKVALE, Conn., Sept. 7, 1925.—Martin Laubscher, who has been assistant manager of the White Corbin & Co. Division of the United States Envelope Company for a number of years has retired. He had been in the employ of the Company for 45 years starting when 17 in 1881. He has been placed on the pension list. He has also been active in fraternal and military circles. He was the second city clerk to be elected by the voters of Rockville. and at the present time he is trustee of the estate of the late William H. Prescott, well known in the envelope business before his death.

Mr. Laubscher was captain of Co. C 1st Regt. National Guards from 1890 to 1899. He belongs to several fraternal orders. He will now retire and take a vacation for an indefinite period.

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Condition in Paper Industry of Belgium

WASHINGTON, D. C., September 9, 1925.—The economic union of Belgium and Luxembourg became effective by treaty on May 1, 1922, to last for 50 years, and provided for the disappearance of the customs barriers between the two countries. In the paper industry Luxembourg is relatively unimportant, having only one mill manufacturing writing paper to the amount of about 2,000 short tons per year. All pulp used by it is imported, as the Grand Duchy has no pulpwood resources. No additional details are available, says the Paper Division of the Department of Commerce.

Native Forests Largely Unsuited for Pulp

The land area of Belgium is 11,752 square miles, the forests occupying 18.3 per cent of this total. Namur and Luxembourg are the most heavily wooded provinces and it is stated that the forest areas have increased considerably over the last few generations by reason of careful management and conservation measures. The character of these forests is predominantly hardwood, only about 30 per cent being coniferous, principally pine. Most of them are privately owned, although the areas classed as State property have measurably increased during the last 40 years.

Pulpwood Imports Decreasing

There is no domestic pulpwood production in Belgium, hence all good used for that purpose must be imported. The Quantity of wood imported for the manufacture of base stocks is, however, rapidly decreasing because of the greater economy of importing pulp. This factor, together with the strict limitations placed upon timber cutting, places the pulp industry in a position of diminishing importance.

Pulp is imported principally from the Scandinavian countries and Finland, only one mill haivng facilities for the manufacture of its own supply. The total production of this mill in 1924 was between 25,000 and 30,000 short tons.

Pulp Imports Approaching Prewar Level

In 1913 the total imports of pulp were approximately 146,000 short tons. In 1921, a year of severe depression, these imports had dropped to considerably less than half this amount, but increased in 1922 to 129,000 short tons. In 1923 there was again a decrease of about 24,000 short tons from the previous year, but 1924 saw a further gain, the total being well over 130,000 short tons. It is estimated by the industry that 60 per cent of these imports have been of groundwood, 30 per cent sulphite, and 10 per cent sulphate.

Pulp exports have consistently decreased from over 17,000 short tons in 1920 to about 2,300 short tons in 1924. There is little prospect of an increase in the near future, nor is there any reason to believe that a pulp industry will ever be established in the country as the area of the forests and the forest policy of the Government will not permit the country to support it.

Demand for Paper Showing Steady Growth

Of the 35 paper mills in operation in Belgium at the present time, a number were severely handicapped immediately following the war owing to the removal of brass and copper machinery parts by the occupying forces upon evacuation. By the end of 1919, however, production had reached 75 per cent of the pre-war figure. These mills are now all equipped with modern make, practically all of it of Belgium make.

The demand for paper is influenced principally by the printing and publishing industries and such commercial enterprises as consume quantities of packing and wrapping papers. Imports in 1913 amounted to 34,150 short tons, increasing in 1922 to 43,786 short tons. In 1924 imports amounted to nearly 59,000 short tons with prospects of a further increase during the current year. To supplement these imports, production amounted to 142,860 short tons in 1923 and to 144,625 short tons in 1924.

Exports of Paper Trending Upward

Belgium's exports of paper in 1913 were well over 65,0000 short tons but had fallen in 1920 to almost 35,000 short tons and in 1921 to about 31,000 short tons. Recovery began in 1922 and in 1924 amounted to almost 41,000 short tons. It is not possible to determine what special classes of paper have entered into these exports, but the bulk of the pulp imprts being groundwood it is assumed that much of it is news print. Of late considerable quantities of news have been taken by Germany owing to a heavily increased demand for this product in that country and a desire to prevent the loss of her foreign markets for news through a diminished domestic exportable surplus. It is noticeable that Great Britain and France have consistently remained Belgium's most important European customers and that exports to the Far East have remained fairly consistent in quantity. Belgian competition has been felt by the United States in a number of lines in both the Japanese and Chinese markets, and to a lesser extent in a few others, such as those of India and China. Slight increases in exports are evident all along the line.

Industry's Future Largely Dependent Upon Exports

Present indications are that production in Belgium will increase to a point approaching that of the pre-war level. Tariff policy has restricted paper imports to an extent that has reacted favorably upon the market for domestic goods, and rising costs in competing countries have further restricted price reduction on competitive goods in foreign markets. Increased production beyond the prewar level, however, appears to depend largely upon an expansion of Belgium's export trade, since natural factors are likely to limit domestic consumption beyond that point.

Peter G. Thompson Keeps Old Desk

HAMILTON, Ohio, September 8, 1925.—The new office building of the Champion Coated Paper Company, contains $40,000 in furniture.

Every employee of the firm has a new desk, new chair and new supplies in every detail.

Only one desk in the new building is an old one, that being the desk of Peter G. Thomson, president.

He insisted all employees have new desks and equipment, but he expressed the desire to keep the desk, a gift, which he had used for more than 25 years.

E. M. Hall Organizes Ontario Paper Mills

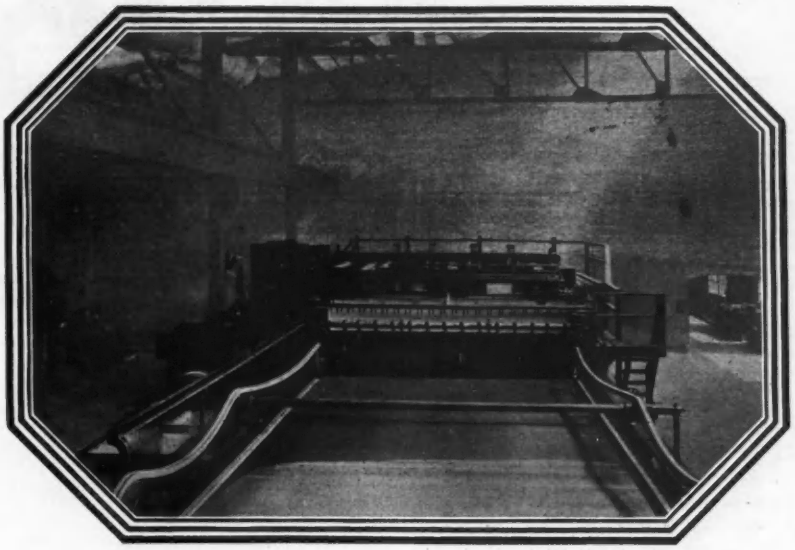
SHORTSVILLE, N. Y., September 8, 1925.—E. M. Hall, who has been the owner and operator of the Shortsville Paper Company, here, for some time, has disposed of his interests to a new organization which will operate under the name of Ontario Paper Mills.

A. M. Nutting, formerly with the Penn Yan Fibre Board Corporation is one of the officials in the new company.

In turn Mr. Hall has purchased the Clayville Paper Mills, Clayville, N. Y., and will operate as "E. M. Hall." Mr. Hall also has a controlling interest in Camilla Wadding Company, Camillus, N. Y.

C. G. Oberley Leaves Munising Paper Co.

MUNISING, Mich., September 4, 1925.—Chas. G. Oberley, who has been the general manager of the Munising Paper Company the past ten years, resigned his position May 20, on account of failing health. He will retain his holdings and remain a director of the company. Mr. Oberley leaves Munising, October 1, and will locate in Minneapolis, Minn., permanently, where he recently purchased a residence.



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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending July 31, 1925, and for the Seven Months Ended July 31, 1925, as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER

PAPER AND MANUFACTURES OF	July 1924 Quantity	July 1924 Value	July 1925 Quantity	July 1925 Value	Seven Months Ending July 31 1924 Quantity	Seven Months Ending July 31 1924 Value	Seven Months Ending July 31 1925 Quantity	Seven Months Ending July 31 1925 Value
Paper, except printed matter (total)	.....	9,662,193	.....	.....	.....	69,433,250	.....	69,393,020
Printing paper—								
Standard newsprint ....lbs...free	224,345,537	8,386,517	234,958,870	8,528,461	1,573,705,040	59,484,468	1,684,924,712	60,418,491
Imported from—								
Finland	8,788,082	279,115	3,299,616	104,242	46,868,008	1,454,974	31,286,906	966,617
Germany	5,606,326	167,753	2,925,031	91,813	57,596,841	1,753,782	30,971,723	949,425
Netherlands	192,234	6,537	.....	.....	1,347,754	43,203	697,759	23,557
Norway	1,424,370	43,240	3,452,965	102,162	11,427,445	381,095	23,836,511	725,736
Sweden	17,485,639	594,562	13,605,442	410,367	59,195,535	1,899,246	80,712,767	2,424,726
Canada	190,273,560	7,277,613	207,185,116	7,654,533	1,394,677,835	53,873,342	1,507,031,837	54,962,908
Other countries	575,326	17,697	4,490,700	165,344	2,591,622	78,826	10,387,209	365,542
All other, n. e. s.....lbs...dut.	2,480,081	109,860	777,378	37,740	15,847,828	651,909	10,982,999	526,245
Grease-proof and water-proof papers..lbs...dut.	88,206	9,050	164,457	23,567	976,248	104,350	1,257,535	157,344
Kraft wrapping paper.....lbs...dut.	2,399,072	106,917	1,475,031	63,538	19,353,691	740,906	9,577,166	391,279
All other wrapping paper.....lbs...dut.	1,884,345	69,745	263,233	13,396	15,139,371	578,346	3,888,943	172,964
Writing, drawing, bond, etc.....lbs...dut.	248,164	59,798	240,680	62,380	1,381,946	300,419	1,744,962	381,621
Surface coated .....lbs...dut.	210,900	46,937	148,547	48,141	1,074,644	248,709	946,027	308,500
Tissue paper .....lbs...dut.	196,970	65,624	202,278	77,043	1,282,803	551,675	1,759,998	749,792
Paper boards—								
Pulp boards in rolls.....lbs...dut.	4,908,689	135,856	4,486,727	133,833	50,274,710	1,402,496	43,551,223	1,168,455
Other paper boards, n. e. s.....lbs...dut.	2,973,009	65,451	2,647,803	63,016	19,619,699	461,367	19,806,980	469,975
Cigarette paper, cigarette books and covers .....lbs...dut.	361,096	97,556	875,344	203,653	6,167,976	1,628,763	4,711,990	1,194,645
Photographic paper .....lbs...dut.	236,046	52,209	222,553	49,602	1,940,487	395,078	2,019,936	438,844
Hanging paper .....lbs...dut.	237,472	19,796	272,651	30,832	7,597,833	374,197	3,084,973	297,277
Paper boxes .....lbs...dut.	192,360	114,772	145,678	79,505	963,988	587,274	1,386,878	829,629
Duplex decalcomania, not printed ....lbs...free	51,801	12,902	33,478	7,574	302,576	73,276	268,554	68,448
All other .....dut.	.....	309,203	.....	329,248	.....	1,860,017	.....	1,919,521
Books and other printed matter (total).....	.....	834,109	.....	1,815,233	.....	5,195,002	.....	7,374,548
Books and pamphlets in foreign languages .....lbs...free	213,612	131,945	155,074	108,430	1,309,644	783,348	1,100,364	868,291
Books, maps, music, etc., 20 years old lbs...free	37,838	115,533	38,168	934,337	211,201	827,163	220,644	2,352,919
Other books, etc. .....lbs...free	222,928	175,108	227,724	238,572	1,396,535	940,994	1,622,329	1,112,218
Books, pamphlets, and music, n. e. s..lbs...dut.	254,435	184,243	281,590	234,206	1,940,821	1,326,163	1,962,361	1,495,591
Maps, charts, and other printed matter n. e. s. .....dut.	.....	62,655	.....	76,667	.....	475,436	.....	540,160
Lithographically printed matter, n. e. s.—								
Cigar bands, labels, and flaps.....lbs...dut.	7,812	9,515	17,021	20,756	72,494	88,074	113,632	91,423
Decalcomanias .....lbs...dut.	23,267	32,909	25,834	43,493	151,543	214,273	172,170	261,793
All other .....dut.	.....	122,192	.....	158,772	.....	539,551	.....	652,163

CRUDE PAPER STOCK

Rags for paper stock .....lbs...free	43,472,932	775,973	54,867,320	1,414,087	266,625,629	5,656,842	342,614,161	9,972,226
Waste bagging, waste paper, etc.....lbs...free	7,301,706	82,531	9,414,774	165,785	58,092,149	676,980	68,964,369	1,193,112
Old rope and all other paper stock...lbs...free	7,551,811	434,372	5,612,653	314,440	58,294,577	3,174,028	41,964,218	2,334,626

WOOD PULP

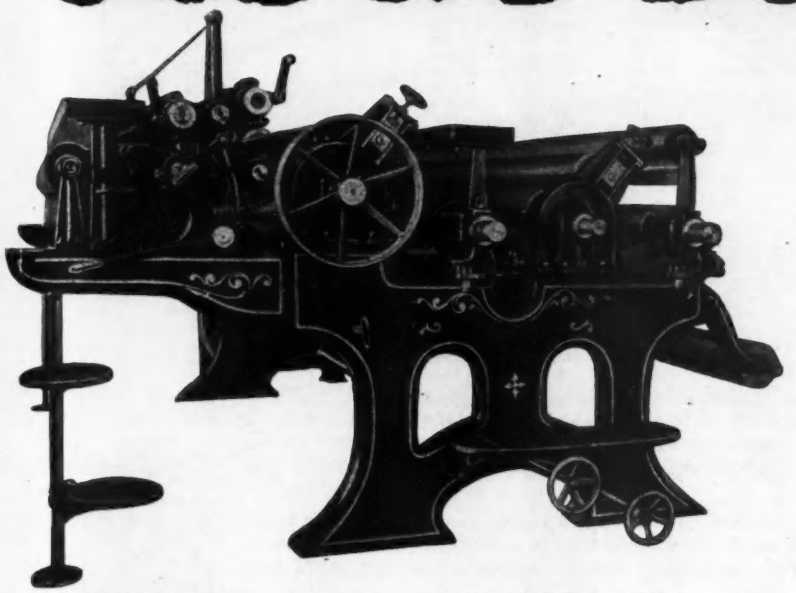
Mechanically ground wood pulp.....ton..free	15,674	517,893	20,865	583,907	105,100	3,541,670	157,623	4,640,823
Chemical wood pulp—								
Sulphite, unbleached.....ton..free	51,086	2,671,098	45,138	2,629,939	284,891	15,445,457	328,917	17,974,776
Sulphite, bleached .....ton..free	21,918	1,573,977	24,261	1,932,883	143,224	11,352,036	178,856	13,848,627
Total sulphite .....ton	73,004	4,245,075	69,399	4,562,812	428,115	26,797,493	507,773	31,823,403
Imported from—								
Finland	5,824	295,190	7,043	380,935	34,306	1,801,952	36,200	1,844,480
Germany	4,353	234,626	4,293	302,527	28,878	1,736,978	36,632	2,296,574
Norway	4,320	277,010	5,561	460,089	27,576	2,024,222	43,255	3,273,398
Sweden	31,518	1,683,845	23,291	1,469,232	138,062	8,012,807	158,424	9,285,334
Canada	24,979	1,635,139	27,828	1,866,934	185,954	12,416,011	213,214	14,029,763
Other countries	2,010	119,259	1,383	83,095	13,339	805,523	20,048	1,142,463
Sulphate pulp, unbleached (Kraft pulp .....ton..free	25,329	1,388,807	25,781	1,532,346	142,831	8,334,071	177,400	10,431,723
Imported from—								
Finland	2,685	124,410	450	25,650	8,291	398,622	9,169	483,279
Norway	2,250	123,217	325	19,699	7,218	347,796	4,747	274,933
Sweden	11,187	569,245	14,210	778,604	50,364	2,716,008	86,753	4,781,495
Canada	8,307	525,571	10,539	691,063	75,215	4,784,652	74,892	4,790,526
Other countries	900	46,364	257	17,330	1,743	86,993	1,839	101,485
Sulphate pulp, bleached.....ton..free	4,164	228,293	1,027	61,704	6,477	376,104	8,070	496,793
Other pulp .....ton..free	118	4,313	134	12,588	1,289	75,147	1,819	126,237

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Color, dyes, stains, color acids, and color bases, n. e. s. .....lbs...dut.	238,968	270,421	374,698	454,066	1,854,678	2,230,693	3,728,059	4,997,906
Imported from—								
France	14,088	18,219	7,831	10,532	79,641	113,433	90,697	122,003
Germany	126,557	157,760	158,195	203,221	893,323	1,001,395	1,891,975	2,658,497
Italy	5,637	9,905	13,247	17,339	102,675	136,846	159,498	195,513
Swizerland	78,410	65,961	150,299	155,775	583,209	748,985	1,169,699	1,473,328

(Continued on page 42)

"Broke" Losses



STOP "broke" losses and you end one of the great evils of production. When widths are changed at the slitters is the time when great quantities of board are most often wasted. These losses frequently assume tremendous proportions.

Modern efficiency has come to the fore in the *"Beloit" Heavy Duty Cutter with Slitter Attachment.* The slitter on the "Beloit" is so arranged that the sheet is NOT broken when changing widths. Just the swing of a lever and the job is done—quickly, easily, economically—without "broke" losses.

The "Beloit" is making good in scores of mills where modern methods prevail—where costs are low and efficiency high.

It will pay you to investigate now. Send for Special Bulletin and get the facts.

BELOIT PUMPS FOR SERVICE

Beloit Iron Works **Beloit, Wis., U. S. A.**

Since 1858 Builders of Board Mill and Container Plant Machinery

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(*Continued from page 40*)

PAPER AND MANUFACTURES OF	July 1924 Quantity	July 1924 Value	July 1925 Quantity	July 1925 Value	Seven Months Ending July 31 1924 Quantity	Seven Months Ending July 31 1924 Value	Seven Months Ending July 31 1925 Quantity	Seven Months Ending July 31 1925 Value
United Kingdom	5,583	5,987	9,626	6,055	52,505	48,877	120,334	99,612
Other countries	8,993	12,589	35,500	61,144	143,325	181,157	295,856	448,956
Casein or lactarene ..... lbs.. dut.	1,794,363	130,986	1,199,240	109,837	11,530,907	943,649	12,701,778	1,000,365
Kaolin, china, and paper clay ..... ton.. dut.	27,750	276,615	31,217	314,731	192,385	1,973,093	209,614	1,988,615
EXPORTS—PAPER								
Paper, except printed matter (total)	.....	1,784,124	.....	2,065,294	.....	13,796,949	.....	13,819,984
Printing paper— Newsprint paper ..... lbs.	1,979,800	99,818	1,936,332	87,796	20,589,921	1,053,220	25,275,426	1,117,610
Exported to—								
Canada	9,699	941	24,873	2,108	721,657	55,825	758,857	53,254
Central America	80,116	4,759	107,800	3,872	419,701	23,282	565,614	27,096
Mexico	102,141	4,941	249,937	11,466	1,383,559	69,444	1,184,901	56,036
Cuba	1,173,140	51,957	593,804	28,535	11,943,401	542,241	11,991,564	494,988
South America	303,654	18,164	370,186	16,518	1,363,776	79,359	5,105,533	232,354
China	116,222	7,432	358,583	14,256	1,329,609	96,441	1,637,433	66,237
Philippine Islands	148,378	9,027	201,645	8,405	2,314,201	115,703	3,087,539	139,003
Other countries	46,450	2,597	29,504	2,636	1,114,017	70,925	943,985	48,642
Book paper, not coated ..... lbs.	1,183,502	157,275	1,661,566	195,493	8,930,955	1,067,175	10,236,680	1,159,648
Exported to—								
United Kingdom	139,089	36,757	13,527	2,289	589,795	119,297	104,585	17,643
Canada	92,472	13,344	143,287	14,449	1,105,612	143,056	1,443,101	170,418
Central America	14,794	1,709	77,724	8,052	334,617	36,252	421,503	45,162
Mexico	177,796	17,990	276,162	28,584	944,423	102,962	1,142,671	134,582
Cuba	141,122	15,704	470,515	44,223	1,759,277	204,188	2,930,002	287,356
Argentina	51,256	5,550	107,063	11,059	441,638	41,485	451,977	45,222
Brazil	19,333	3,466	56,969	14,345	187,115	26,303	209,218	31,847
Venezuela	12,926	1,387	29,888	3,047	282,049	31,237	331,004	33,183
Other South America	140,613	14,477	102,908	10,376	519,467	64,913	669,141	66,991
China	184,413	17,488	93,770	27,736	699,623	67,623	501,549	99,558
Philippine Islands	43,187	4,160	143,848	14,486	709,124	63,583	797,354	76,996
Australia	61,557	6,848	8,204	1,110	330,209	37,543	271,811	31,824
Other countries	104,944	18,395	137,701	15,737	1,028,006	128,733	962,764	118,866
Cover paper ..... lbs.	63,646	10,753	96,815	16,098	443,189	82,220	701,727	132,975
Greaseproof and waterproof paper ..... lbs.	105,679	12,637	133,764	20,897	1,003,036	116,728	1,103,730	138,950
Wrapping paper— Kraft paper ..... lbs.	34,516	4,003	23,812	1,798	366,632	42,606	417,879	35,323
Other wrapping ..... lbs.	1,734,406	131,596	2,843,238	190,026	13,683,550	1,156,566	16,548,010	1,266,267
Surface-coated paper ..... lbs.	340,441	50,920	522,769	68,454	1,874,117	305,408	2,305,114	331,051
Tissue and crepe paper ..... lbs.	214,264	60,892	306,872	83,335	1,550,708	397,459	1,879,617	523,615
Toilet paper ..... lbs.	332,724	44,685	439,639	48,811	2,519,892	292,019	3,027,635	359,537
Paper towels and napkins ..... lbs.	86,386	14,774	154,308	24,052	795,232	123,447	768,439	120,960
Box board ..... lbs.	.....	.....	2,212,744	70,733	.....	.....	8,705,688	313,684
Bristols and bristol board ..... lbs.	85,877	16,997	56,391	6,920	613,844	77,231	497,527	62,137
Other paper board and strawboard ..... lbs.	6,617,900	257,941	2,751,392	144,815	43,587,571	1,772,961	18,899,812	902,785
Sheathing and building paper ..... lbs.	348,451	20,190	1,651,351	64,784	2,549,536	122,518	7,637,231	343,378
Wall board of paper or pulp ..... sq. ft.	851,493	33,672	1,177,959	36,548	10,552,903	346,811	7,846,687	262,720
Blotting paper ..... lbs.	173,887	24,008	270,245	34,335	1,357,040	170,169	1,698,172	203,388
Filing folders, index cards, and other office forms ..... lbs.	38,255	12,042	47,570	15,742	269,783	98,628	364,563	117,225
Papeteries (fancy writing paper) ..... lbs.	32,525	10,420	31,503	10,291	172,781	68,239	239,686	82,402
Other writing paper ..... lbs.	239,362	40,580	334,191	75,702	2,784,437	440,434	1,761,325	318,859
Cigarette paper and books ..... lbs.	51,920	19,827	29,782	8,863	611,339	222,810	281,911	81,003
Photographic paper ..... lbs.	126,442	117,701	148,972	129,053	926,772	971,673	989,698	851,516
Paper hangings (wall paper) ..... yds.	1,905,377	31,049	1,138,709	26,304	15,886,278	412,501	16,547,716	411,614
Paper bags ..... lbs.	876,653	72,857	1,001,846	81,612	5,973,483	580,349	7,412,056	640,666
Boxes and cartons ..... lbs.	1,166,043	88,950	1,869,488	121,229	7,714,846	637,626	9,195,621	698,958
Carbon paper ..... lbs.	51,189	44,491	103,449	79,548	519,244	405,604	617,180	510,287
Envelopes ..... lbs.	197,121	38,985	195,542	39,156	1,365,913	277,628	1,494,368	283,189
Cash-register and adding-machine paper ..... lbs.	92,716	10,379	114,586	12,592	694,576	78,944	901,240	94,576
Other paper and paper products ..... lbs.	2,545,945	356,682	2,061,494	370,307	21,430,082	2,475,975	13,076,301	2,455,661
Books, maps, pictures, and other printed matter (total)	.....	1,478,041	.....	1,883,163	.....	11,095,043	.....	12,140,231
Books and pamphlets ..... lbs.	2,403,396	709,088	3,266,781	844,912	18,353,532	5,391,532	23,918,676	5,941,501
Maps and charts ..... lbs.	9,785	11,472	15,163	12,762	94,585	96,889	117,361	127,070
Music in books or sheets ..... lbs.	63,770	38,362	49,484	38,037	340,457	205,500	265,517	165,781
Souvenir post cards ..... lbs.	26,252	15,314	72,818	21,294	194,865	91,017	272,001	115,501
Lithographically printed matter, except post cards and maps ..... lbs.	154,071	143,791	267,572	161,121	1,210,720	1,029,574	1,714,694	1,064,933
Playing cards ..... Packs	307,662	34,759	750,515	87,200	3,653,864	416,143	4,509,318	478,042
Other printed matter ..... lbs.	1,321,185	525,255	1,751,739	717,837	10,060,168	3,864,388	11,670,119	4,247,403
WOOD PULP AND PAPER STOCK								
Sulphite wood pulp ..... tons	1,756	104,901	2,447	147,711	11,107	665,829	13,300	761,064
Soda wood pulp ..... tons	40	3,228	280	24,172	1,082	100,951	1,468	136,649
Other wood pulp ..... tons	250	22,619	156	9,907	2,670	268,139	5,294	572,449
Rags, and other paper stock ..... lbs.	11,317,854	182,548	18,062,079	315,434	74,382,233	1,252,353	108,443,767	1,809,738
PAPER AND PULP MILL MACHINERY								
Paper and pulp mill machinery ..... lbs.	1,097,649	238,163	464,288	143,623	6,471,714	1,380,092	2,881,487	824,410

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YOUR specifications for built-to-order machinery, regardless of the size of the unit planned, are within the capacity of Dodge foundries and machine shops. Dodge experience, facilities and service are such as to warrant the caption, "Industry's Source of Equipment."

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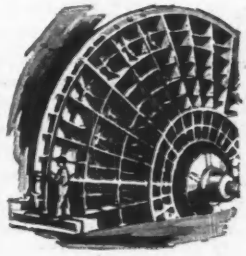
Write for the Dodge Book of Big Jobs. Ask one of our fourteen factory branches or five hundred machinery supply dealers for the true picture of Dodge. Send us your specifications for new projects or re-arrangements. Know Dodge as it is,—*the world's market place for industrial equipment.*

Dodge produces everything for the mechanical transmitting of power. Dodge means power savings



Pounds or tons—as with this 83,000 pound plate glass polishing table, Dodge can build it

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MISHAWAKA, INDIANA

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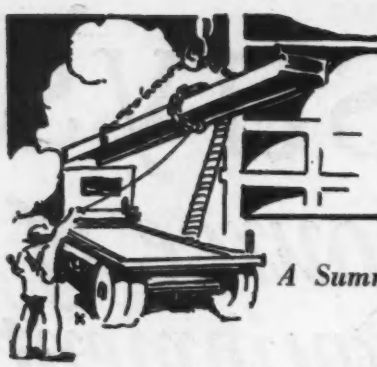
POWER TRANSMITTING — ELEVATING — CONVEYING & SPECIAL MACHINERY

POUNDS OR TONS DODGE CAN BUILD IT



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Framingham, Mass.—The Dennison Manufacturing Company, manufacturers of paper specialties, has preliminary plans under way for the erection of a new addition to its local plant on Howard street, to be two-story, estimated to cost $45,000. W. S. Fitch is company engineer.

Bellingham, Wash.—Herb Brothers, Ltd., New Westminster, B. C., are said to be planning the construction of a new mill on the Squalicum Creek, near the Bellingham city limits, to cost about $100,000, with equipment. It is proposed to build additional units later. Application has been made to the city for necessary water supply.

Ithaca, N. Y.—The Brown Paper Company, is said to have preliminary plans under way for the rebuilding of the portion of its local mill, destroyed by fire, September 2, with a loss estimated at $42,000, including equipment. The reconstruction will cost close to a like amount.

Norwood, Mass.—Bird & Son, Inc., East Walpole, Mass., manufacturers of paper roofing and kindred products, have awarded a general contract to J. Gascoigne & Co., 6 Beacon street, Boston, for a proposed addition to their local mill, designed primarily for storage and distributing service. Gonks & Johnson, 99 Chauncy street, Boston, are architects and engineers.

Seattle, Wash.—The Schumacher Wall Board Company, Los Angeles, Cal., has tentative plans under way for extensions and improvements in its local plant at 6851 East Marginal Way. The initial work will consist of a small building on adjoining site, to be followed at a later date by a complete new plant unit, estimated to cost in excess of $400,000, including machinery. Plans will be drawn in the near future. John Schumacher, Sr., heads the organization.

Lockport, N. Y.—The Lockport Paper Company is said to be aranging for the rebuilding of the portion of its local plant at Mill and Frost streets, destroyed by fire, September 1, with loss reported at close to $150,000, including equipment, with damage including electrical department. The structure was given over largely to composition shingle manufacture.

New Hope, Pa.—The Union Mills Paper Company has work nearing completion on a new power house at its plant near the lower end of the borough, and expects to place the unit in service some time during October. The installation includes a 75,000 gallon capacity steel water tank. A brick stack, 150 ft. high will be provided. W. E. S. Dyer, Philadelphia, Pa., is architect and engineer.

Los Angeles, Cal.—The Los Angeles Paper and Manufacturing Company has awarded a general contract to Charles B. Harp, Chamber of Commerce Building, for the erection of a new one-story mill on the Valley Boulevard. It will be 50 x 330 feet, estimated to cost close to $30,000. Noice & Merrill, Washington Building, are engineers.

Toronto, Ohio—George E. Wisener, general manager of the plants of the Carnegie Steel Company, Mingo Bellaire, Ohio, recent purchaser of the plant and property of the Toronto Paper Mill Corporation, is arranging for the early organization of the company and operation of the mill. A number of improvements and replacements will be made in the machinery, and the plant fully reconditioned for maximum service. It is expected to be in position to resume production late in September. J. H. Cayford, formerly manager of the Hartje Paper Company, Steubenville, Ohio, will act as manager of the new company, which will give employment to about 75 persons. The plant has been idle for a number of months.

Frankford, Ont.—The Quinte and Trent Valley Power Company, operated by the Canadian Paper Board Company, has completed plans and will proceed with the construction of a new hydro-electric generating plant on local site, to be used for paper mill operation and other service. It is estimated to cost close to $250,000, including equipment.

New Companies

Philadelphia, Pa.—The Atlantic Paper Tube Corporation, care of the Corporation Guarantee and Trust Company, Land Title Building, representative, has been incorporated under Delaware laws with a capital of $75,000, to manufacture paper tubes, containers and kindred products.

Providence, R. I.—The Union Paper Company has been incorporated with a capital of 750 shares of preferred and 500 shares of common stock, to deal in paper specialties. The incorporators are Vasper, Haskell and Moses Frank, 19 Creighton street, Providence,

New York, N. Y.—Selbec, Inc., has been incorporated with a capital of 100 shares of common stock, no par value, to manufacture papermaking machinery. The incorporators are J. S. Quinn, A. T. Burroughs, and A. J. Arbuckle. The company is represented by Herman Goldman, 120 Broadway, New York.

Hartford, Conn.—The C. J. Callaghan Paper Box Company, 333 Windsor avenue, has filed notice of organization to manufacture and deal in paper boxes and containers. The company is headed by Albert Glasband.

New York, N. Y.—The Rosmor Card and Paper Company has been incorporated with a capital of 200 shares of common stock, no par value, to manufacture and deal in paper and card stocks, etc. The incorporators are H. Morris, G. L. Rose and A. McGall. The company is represented by M. E. Joffe, Trinity Building, New York.

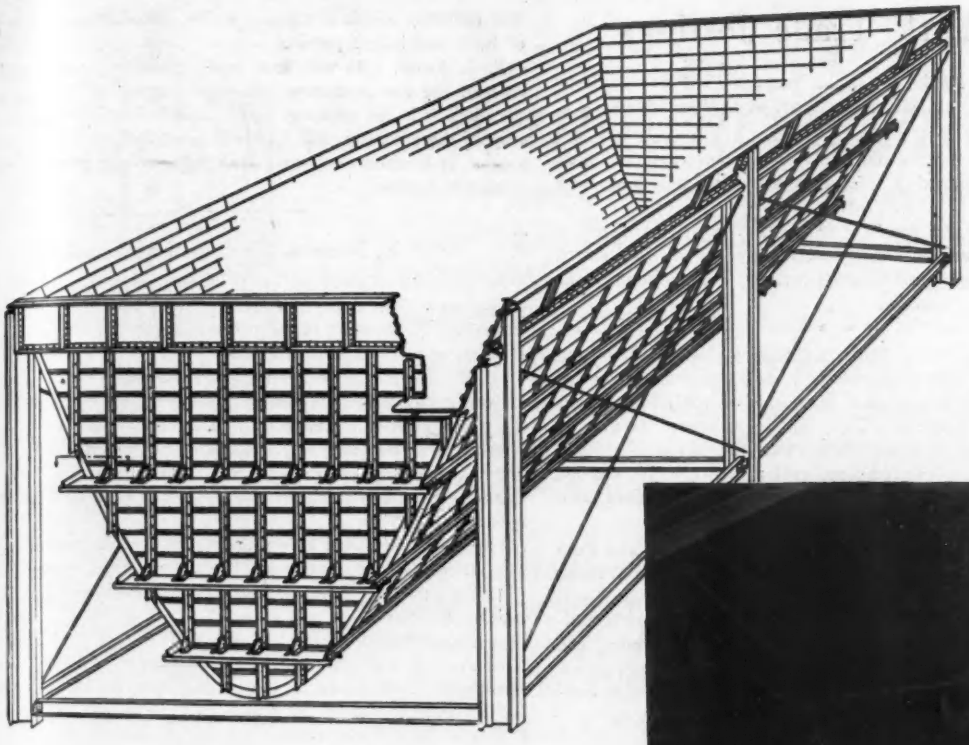
Financial

Baltimore, Md.—The Chesapeake Carboard Company has filed notice of increase in capital by an amount of $50,000, preferred stock.

Philadelphia, Pa.—Walter C. Douglas has been appointed referee in bankruptcy for the United Paper Mills Supply Company, Inc., 423 North Orianna street.

Lockport, N. Y.—The Upson Company, manufacturer of composition wallboard products, has recently arranged for an increase in capital from $2,000,000, to $5,750,000, a portion of the fund to be used for expansion.

New York, N. Y.—The C. R. O. Envelope Manufacturing Co. has arranged for a change of name to the Orgler Corporation.



A COAL BUNKER

that cannot "Rust-out"

Brief Description

The A-S-H Standardized Cast Iron Bunker consists of a series of flexible steel bands, suspended from both ends, thus forming a true catenary shape. The walls of the bunker consist of overlapping castings which are clamped to these bands.

Why It Cannot "Rust-Out"

Only the cast iron plates are in contact with the coal, as this material has proven to "stand-up" better than any other. No bolt holes in the plates, and no bolts sticking thru which would rust out from corrosion.

Quickly and Cheaply Installed

It is extremely simple to erect, ordinary labor can do the work. No concrete, brick or other lining is required, therefore, this cost plus the expense of heavier foundations and superstructure is saved.

Cost Moderate—Maintenance Nil

Due to standardization of parts, the first cost of this bunker is moderate, and because of the cast iron walls and absence of lining, its maintenance is practically nil.

Catalog on request

ASH

Products include:

ASH GATES

SECTIONAL CAST IRON ASH HOPPERS

STANDARDIZED ASH SLUICING SYSTEMS

ASH "QUENCHERS" FOR ALL TYPES OF HOPPERS

CAST IRON "CATENARY CURVE" COAL BUNKERS

ASH STORAGE BUNKERS

AIR COOLED BOTTOMS FOR POWDERED FUEL FURNACES

Specify A-S-H Equipment

A FEW USERS

ROCHESTER GAS & ELECTRIC CO.
Rochester, N. Y.

EICHLER BREWING COMPANY
New York, N. Y.

COLUMBIAN PAPER COMPANY
Buena Vista, Va.

DUTCHESS BLEACHERY, Inc.,
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The ALLEN-SHERMAN-HOFF Co.

263 SOUTH 15th. STREET - PHILADELPHIA

Chicago Boston Detroit Pittsburgh St. Louis Atlanta Cincinnati
New York Rochester Kansas City, Mo. Wilkes-Barre, Pa. Indianapolis Minneapolis

New York Trade Jottings

Walter Hicks, of Daniel M. Hicks Inc., 200 Fifth avenue, is on his annual vacation, which is being spent at Shelter Island.

* * *

Daniel M. Hicks, Inc., of 200 Fifth avenue, have enlarged their suite of offices by annexing a large, roomy office adjoining their former space.

* * *

G. F. Steele, the well known paper broker, of 33 W. 42nd street, New York, is enjoying a hard-earned vacation at his summer home in Beaurepaire, Que., Canada.

* * *

The corporation of Ira L. Beebe & Company, Inc., of 17 Battery Place, is liquidating and the business is being continued under the style of Ira L. Beebe & Company, established in 1851. This firm is now back in its old quarters, 132 Nassau street, where, for over 70 years, the name has been associated with the business of pulp and paper. The concern is composed of Ira L. Beebe, Jr., and his son, Roderick Beebe. The new telephone number is Beekman 9284.

* * *

Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, and Morris Dubrow, assistant secretary of the Writing Paper Manufacturers Association, were in Washington on Tuesday conferring with officials of the Bureau of the Census in connection with the classification of paper on census schedules, and the use of paper statistics in the Survey of Current Business, issued monthly by the Department of Commerce. Dr. Baker also conferred with other government officials while in Washington.

* * *

A. J. T. Taylor, president of the Vickers & Combustion Engineering, Ltd., Toronto, with several consulting engineers, will arrive in New York, Friday, September 11, to depart for England on the *Majestic* which sails on Saturday. The party will be joined here by W. G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, who has been invited to make the trip, which will be for the purpose of inspecting some of the leading pulp and paper mills in Great Britain and Sweden.

Homer Stafford Leaves Knowlton Bros.

WATERTOWN, N. Y., September 8, 1925.—Homer E. Stafford, who has been general superintendent of the Knowlton Brothers Paper Company here for the last 15 years, and who has been in the employ of the company since 1896, completed his last day as superintendent of the company Monday of last week. Alfred J. Wightman, of Kalamazoo, Mich., assumes his duties as the new superintendent.

Mr. Stafford said that he did not know exactly what he would do for the present. He expected to establish connections with some other paper mill, but probably not before next spring, as he expects to go to Florida and spend the winter in the south.

"I am very sorry to leave Watertown," said Mr. Stafford. "I have formed many friendships here, and it is always hard to leave a company with which one has been intimately connected for so many years.

"It was inevitable, however. Mr. Wightman, and R. L. Pease, who will become vice president and general manager, have both purchased an interest in the Knowlton company, and they wished to take an active part in its operation. Consequently there was no longer any room for me.

"I have known Mr. Wightman in a general way for a number of years, and I know him to be a man of great ability and fine training. I am sure he will make a most desirable and successful man as superintendent."

Both Mr. Wightman and Mr. Pease come here from Kalamazoo, Mich., where they have been connected with the Hawthorne Paper company for several years. They will still retain an interest in that company which is engaged in the manufacture of fine grades of bond and ledger papers.

R. L. Pease, who will become vice-president and general manager of the manufacturing department purchased a large part of the interest in the company owned by Herbert E. Harmon, secretary of the company, who has been connected with it for about 40 years. It is understood that Mr. Harmon will continue with the company, however.

W. E. Powers Welcomed at Luncheon

At a luncheon given by G. F. Steele, paper broker, of 33 W. 42nd street, New York, in a private dining room in the new Hotel Roosevelt, Wednesday, of last week, the guest of honor was W. C. Powers, now of London, England.

"Billy" Powers, as he is affectionately known in the paper trade, arrived in the United States only last week to study conditions in the paper industry in this country and in Canada.

Previous to removing to London some six years ago, Mr. Powers had been general sales manager of the Great Northern Paper Company for many years, in which capacity he gained innumerable friends.

The luncheon proved a very interesting and successful event and was attended by the following friends of Mr. Powers:

Arthur Fuller, of London, financial representative of Lord Rothermere; T. E. Walker and E. A. Westfall, of H. G. Craig & Co., New York; Charles F. Hart, of the *New York Times*, New York; J. L. Fearing, vice-president of the International Paper Company, New York; Major John S. Cohen and John Brice, of the *Atlanta Journal*, Atlanta, Ga.; J. M. Marshall, of the Great Northern Paper Company, New York; Ossian Ray, of the Perkins-Goodwin Company, New York; Henry W. Cressy, sales agent, St. Maurice Paper Company Ltd., New York; Fred Leahy, sales manager, Eastern Manufacturing Company, New York; Harry Gould, president of the Gould Paper Company, Lyons Falls, New York; R. S. Kellogg, manager of the News Print Service Bureau, New York; Hjalmar Scharin of Perkins-Goodwin Company, New York, and the host, G. F. Steele, of New York.

Letters of regret were received from the following who had been invited and were unable to attend:

Louis Calder, president of the Perkins-Goodwin Company, New York; L. B. Palmer, manager, American Newspaper Publishers' Association; Arthur Graustein, president International Paper Company, New York; John C. Martin, general manager *Public Ledger*, Philadelphia, Pa.; Earl S. Duffin, president and Eric Bowater, vice-president, Bowater Paper Mills, Inc., New York.

Mr. Powers plans to return to England aboard the Cunard liner *Aquitania*, sailing from New York on September 30.

Strathmore Employees to Have Field Day

[FROM OUR REGULAR CORRESPONDENT]

WORONCO, Mass., September 8, 1925.—The annual field day and outing of the mill officers, employees and families of the Strathmore Paper Company of Woronoco and Mittingague will be held at Riverside Park near Springfield, September 12. The decision as to the place was determined by ballot a large number voting in favor of Riverside. About 2,000 will make the trip part by trolley car and part by motor car.

Albert R. Smith Returns From England

Albert R. Smith, treasurer and general manager of the Keith Paper Company, of Turners Falls, Mass., accompanied by Mrs. Smith and daughter, has just returned from a two months' trip abroad. Their itinerary included the prominent centers of England, Scotland, Holland, Belgium, Switzerland and France. Just before embarking for home Mr. Smith and family spent a week at Devonshire, England, visiting the scenes and friends of his birthplace.

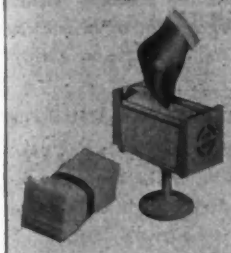
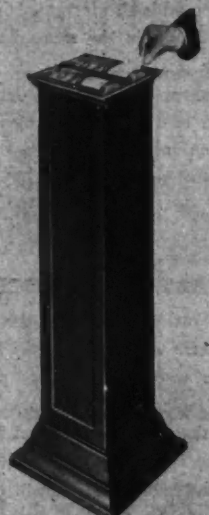


TABLE TYPE DISPENSER

A PACKAGE FOR ALL OCCASIONS



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Plus Highest Quality

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BETTER ATTITUDE TOWARD ASSOCIATIONS

A greatly liberalized attitude toward trade associations on the part of the Department of Justice was announced by William J. Donovan, Assistant to the Attorney General, in a recent address. Mr. Donovan declared that there has been a feeling that the Government appealed the Maple Flooring and Cement cases, in which the Supreme Court found favorable to the associations, not because it contested the principle of the decisions but rather because it desired to have emphasized and clarified, as a new tenet, the rule laid down.

The Department of Justice has filed petitions for rehearsings in both of these cases. "In these petitions the Government," says Mr. Donovan, "accepts as the test for legality of trade association activities, the principle laid down by the Court in its decisions. It asks for a reconsideration of these cases only because of the belief that the question has not heretofore been adequately presented with special reference to certain outstanding facts, which seem to bring the case squarely not only within prior decisions of the Court but within the very principle laid down by the Court in the Maple Flooring and Cement cases.

"In other words, the purpose of these petitions is not to restate the arguments previously made or to challenge the principle upon which the case was decided. It is merely to point out facts contained in the record which, accepting the principle of the Court's opinion, appear to require a different result.

"The significance of these petitions is not generally realized by the bar of the country. They are significant because they evidence a decided change in the attitude of the Department of Justice towards trade associations and their activities.

"In this change of attitude, however, there is no loss of recognition of the fact that manifest evils may result either from an honest misinterpretation of these decisions or from a deliberate perversion in order to have respectability lent to activities which the Court will never countenance.

"In these decisions the Court has indicated certain rights to be enjoyed by these associations in their lawful pursuits. At the same time, however, it has affirmed the doctrine laid down in previous cases in which the abuses involved in the interchange of business data is condemned.

"These condemnations include secrecy in the use of information; fraud in the compilation of statistical data; concerted action based upon such data; distribution of identified information—that is, identifying the figures of each competitor; the interchange of quotations and other information leading up to sale.

"While the Court in the present cases also condemns those enumerated practices, it does permit members to 'meet and discuss such information and statistics'. The privilege thus granted is particularly susceptible of abuse, even though the Court limits it by stating that they may do this only provided that they do not reach or attempt to reach 'any agreement or in concerted action with respect to prices or production, or restricting competition.'"

EMPLOYMENT IN THE PAPER INDUSTRY

July employment figures in the paper, pulp and paper box industries just have been made public by the Bureau of Labor Statistics, Department of Labor, reflect a slight improvement in the industry during that month.

Two hundred and four paper and pulp mills reported their employment in June at 52,607 increasing in July to 53,145, an increase of one per cent. The payrolls in these mills on the other hand decreased from $1,358,373 in June to $1,345,802 in July, a decrease of 0.9 per cent.

Replies were also received from 159 paper box factories which reported their employment in June at 15,558, increasing in July to 15,594, an increase of 0.2 per cent. The payrolls in these plants also increased from $329,460 in June to $331,205 in July, an increase of 0.5 per cent.

The bureau also received replies from 198 paper and pulp mills which gave their employment in July of last year at 50,484, increasing in the same month of this year to 52,208, an increase of 3.4 per cent. The payrolls in these mills also increased from $1,249,559 in July of last year to $1,327,076 in the same month of this year, an increase of 6.2 per cent.

One hundred and forty-five paper box factories reported their employment in July of last year at 14,889, increasing in the same month of this year to 14,930, an increase of 0.3 per cent. The payrolls in these plants also increased from $300,720 in July of last year to $320,092 in July of this year, an increase of 6.4 per cent.

SALESMEN'S ASSOCIATION ACTIVITIES

With the summer ended, the various groups of the Salesmen's Association are now planning their winter program. At Chicago the members have not only their weekly meetings to prepare for, with a resumption of the round table sessions, but also the special luncheon on October 6 in connection with the National Trade Convention at which the manufacturers and merchants get together.

In New York the weekly round table sessions will be resumed Monday, September 14 at the Belmont Hotel, and plans contemplate an occasional special program in addition to the weekly discussion of business matters.

The New England division has such a scattered membership that it has never been found practicable to hold regular round table conferences, but the members in that section are endeavoring to find some way of utilizing the Association for the better development of salesmanship of paper.

The Miami Valley division has held its periodical round table

discussion combined during the summer with golfing at one of the fine country clubs in that valley.

The development of some new salesmen centers as sub-divisions of the four main divisions has been considered, and there is a possibility of such sub-divsions in the south and in the Kalamazoo district, though nothing definite has been done.

Paper Box and Bag Industry Growing

A revised report on the paper box and bag industry in Canada for 1924 has just been issued by the Forest Products Branch of the Dominion Bureau of Statistics. This is one of the most important of the secondary manufacturing industries depending on the pulp and paper industry for raw material. The report covers only those firms which specialize in the manufacture of stiff, folding and corrugated boxes, cartons and other paper board containers and paper bags. These firms also manufacture in many cases envelopes, egg case fillers, paper drinking cups, bottle wrappers, mailing tubes and other miscellaneous products. The figures relating the production are not in all cases to be regarded as comprehensive as some of these products are also manufactured as side lines in other groups of industries. There were 94 firms engaged in the manufacturing of paper boxes and bags as their principal product in 1924, involving the investment of $15,678,478 as capital. The industry gave employment to 3,909 people and paid $3,543,193 in salaries and wages.

The total cost of materials, which consisted chiefly of paper board, paper, glue, ink and other materials was $6,058,067, of which $1,635,787 was used in the manufacture of stiff boxes, $1,562,542 in the manufacture of folding boxes, $1,760,516 in the manufacture of corrugated boxes and wrappers and $1,099,222 in the manufacture of paper bags, envelopes and other products. The total value of all products of this group of industries in 1924 was $12,566,840; being made up chiefly of stiff boxes valued at $4,103,395; folding boxes valued at $2,842,821; corrugated boxes and wrappers valued at $2,395,254 and paper bags valued at $1,351,998. Ontario leads the other provinces in the manufacture of these commodities with Quebec, Manitoba, New Brunswick, British Columbia and Alberta following in order of importance.

To Represent Arkell & Smith on Coast

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 5, 1925.—H. O. Strom has been appointed Pacific Coast manager for the Ropax products manufactured by Arkell & Smith, of Canajoharie, New York. Headquarters will be in the Chamber of Commerce building, Portland. Ropax is a sack for cement, made of rope and water proof paper and is guaranteed to be waterproof.

St. Lawrence Paper Mills to Issue Bonds

TORONTO, Ont., September 9, 1925.—St. Lawrence Paper Mills, Ltd., will sell shortly $900,000 6 per cent first mortgage sinking fund bonds to cover cost of expansion of Three Rivers mill. These bonds will be under the same mortgage as the $2,500,000 6 per cent issue due 1944 brought out in 1924 by Nesbitt-Thomson & Co., Ltd., of Montreal at 99. This house will probably bring out the issue at price around 95.

Fall Meeting of TAPPI Postponed

Having an unexpected opportunity of inspecting some of the leading paper mills in Great Britain and Sweden, in company with several distinguished engineers of Canada and United States, W. G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, will sail on the *Majestic* from New York on September 12.

He is expected to return October 12 and in consequence plans have been made to postpone the Fall Meeting in Kalamazoo from October 6 and 7 to October 14 and 15.

Stinnes Liquidation and German Industry

The most important event in German industry is still the liquidation of the Stinnes concerns. Further developments show the general state of affairs to have become worse. While at the beginning, the total debts of the Stinnes corporation were estimated at 155,000,000 reichmarks, the sum has since risen to 180,000,000 reichmarks. The opinion is still prevalent today that after the liquidation, a small margin of assets will remain, but, only with the inclusion of all of the private possessions of the Stinnes family.

Of particular interest to the paper industry is the taking over of the export division of the Hugo Stinnes company for navigation and foreign commerce in Hamburg by the export house of Arnold Otto Meyer, located there. Concerning the utilization of the Stinnes' commercial fleet, negotiations are pending with the large German shipping lines of Hamburg and Bremen, which wish to establish a syndicate to take over these ships.

Up to the present these negotiations have not been brought to a conclusion, because the price which the German lines offer for the ships is very low, a fact traceable to the bad condition of the shipping market and the lack of capital of the German industries.

Among the paper and pulp mills controlled by the Stinnes interests in Germany are the Konigsberger Zellstoff—Fabriken, en Konigsberg.

St. Regis Installing New Fourdinier at Deferiet

WATERTOWN, N. Y., September 8, 1925.—Work of erecting the new Foudrinier paper making machine at the Deferiet plant of the St. Regis Paper Company, was started last week.

The machine is 156 inches wide and is one of the very latest models. All of the latest inventions for the Fourdrinier type of machine are included in the equipment. It will be used in the manufacture of news print and catalogue paper.

The machine replaces the smallest of the four machines which have been in operation at the plant. This small machine was taken over by the Bagley-Sewall company, which concern constructed the new machine.

With the new marhine installed, the Defereit plant of the St. Regis Company is one of the finest equipped mills in the East. Included in the other machines is one which has for about two years maintained the world's record for the production of news print.

S. W. Kennedy Leaves K. V. P. Co.

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., September 8, 1925.—S. Ward Kennedy, for the past 12 years secretary and office manager of the Kalamazoo Vegetable Parchment Company, has resigned his position. Mr. Kennedy has no plans for the immediate future, though he expects to remain a resident of this city. No announcement that his successor has been selected is as yet forthcoming from Parchment officials.

Exports of Pulp From Copenhagen

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 9, 1925.—Exports of mechanical and chemical pulp amounted to 31,400 tons and 23,500 tons, respectively, during July, according to a cablegram from Commercial Attache H. Sorensen, Copenhagen. Exports of paper during the same month are reported at 23,000 tons, of which 12,600 tons represent news print shipments.

Call for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 9, 1925.—The Government Printing Office will receive bids on September 11 for 2,000 pounds (137 reams) of 16 x 21, 14½ lbs., white bond paper. Bids will also be opened on the same date for 5,000 pounds of yellow manifold paper in 17 inch rolls.

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Modified Soda **Special Alkali**

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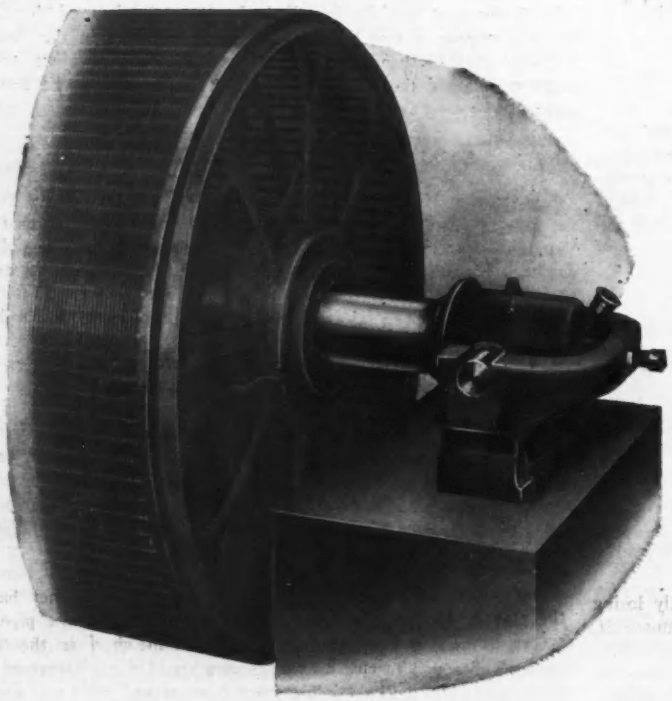

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Section of the
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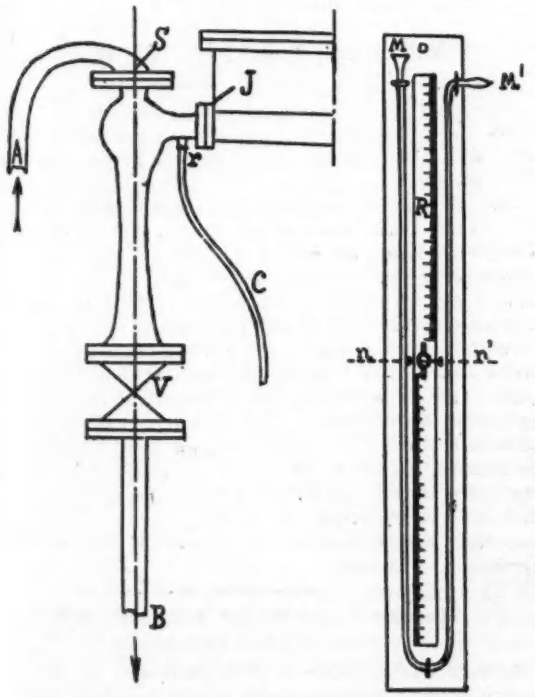
AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Systematic Examination of a Paper Machine Suction Box*

It sometimes happens that the suction boxes of a paper machine, for some reason or other, stop working properly, or even will not work at all. The machine tender, in his haste to bring things back to their normal conditions, generally tries to make various adjustments more or less at haphazard, frequently losing precious time; and he can consider himself very fortunate if, instead of making things worse, he succeeds in locating the cause of the trouble.



INSTRUMENT FOR TESTING SUCTION BOXES

The purpose of this little article is to describe a method for systematically examining a suction box in which the vacuum is obtained by means of a siphon. The method will quickly and surely show if anything is wrong with the suction box, and also the nature of the trouble.

First of all, an intelligent and conscientious machinetender who likes his work, will make it a point to know his machine down to the smallest details, including the vacuum which can be obtained at the various suction boxes. The importance of this point is not generally appreciated to its full value, for the degree of suction at the various boxes has a considerable bearing on the quality of the finished paper.

In order to measure the capacity of the siphon under a given water pressure a small gas-cock r must be inserted in the pipe leading from the suction box to the siphon. The siphon is calibrated during a shutdown of the machine by inserting a blind flange at J and connecting the cock r by means of a thick-walled rubber tube to a suitable gage, which can be an ordinary metal vacuum gauge for high vacuums or else a mercury gauge when only small vacuums are to be measured. The later is more accurate than the metal gage; but on the other hand it has the disadvantage of being much more fragile, especially when it is large to measure relatively high vacuums. The tube from cock r is connected to the arm M' of the gage, which is allowed to hang freely, and the level nn of the mercury must be at the zero of the scale R, the height of which is adjustable by means of the screw v. The cock r is then opened gradually so that the mercury in the gage will not be too suddenly subjected to the vacuum; and when the liquid has come to rest the difference in level in the two arms is read off and gives the vacuum directly in millimeters (or inches) of mercury.

Procedure to Be Adjusted

When this quantity is known, the following procedure should be adopted when the suction box is not working properly:

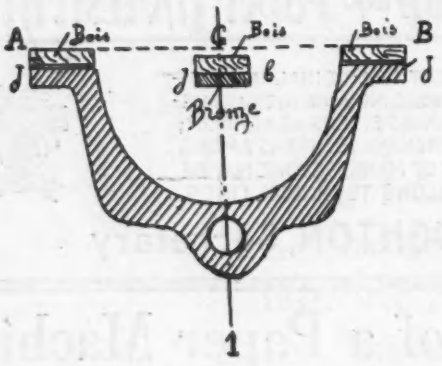
1. While the machine is running, make sure that the water is flowing evenly and normally from the discharge pipe B and that no water is backing up on to the machine wire. If the water backs up on to the wire it is a sure sign that the siphon is either partly or completely choked up. If, on the other hand, the pipe B does not discharge a jet the full size of the pipe, it shows either that there is an obstruction somewhere in the line, or else that insufficient water is being fed at A. Uneven or "jerky" flow at B indicates the presence of air leaks.

2. After stopping the paper machine, disconnect the flanges at J and at S, and carefully inspect the cone of the siphon, cleaning it thoroughly if necessary. See that pipe A is unobstructed and that the flow of water is normal. Also inspect

* Translated from *La Papeterie* 47,558,561, June 25, 1925 by A. Papineau-Couture.

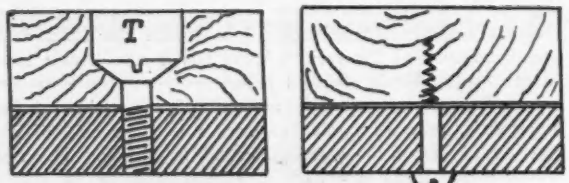
TECHNICAL SECTION, PAGE 101

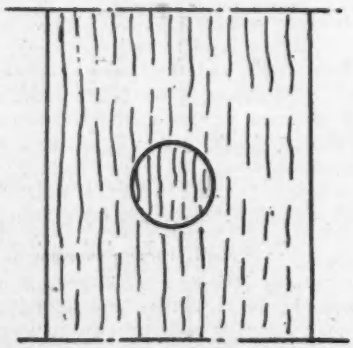
valve V and discharge pipe *B*. Reconnect at *S* and at *J*, inserting a blind flange in the latter place, and test with a vacuum gauge in the same way as described for the calibration of the siphon. If the vacuum is lower than it should be, the siphon should



be replaced by a new one, and sent to the factory for inspection and repair.

3. If the siphon is working properly, then the trouble must be in the box itself, which should be removed and examined carefully. See if the box is cracked, or porous (shown by "sweating" of the box when it is filled with water); if the edges *A* and *B* and the central portion C are true; if there are air leaks between the





the wooden cover and the cast iron body of the box. Should such leaks be detected, the joints at J should be made over again, either with white lead or with a piece of wet felt which has been diped in molten tallow, and care should be taken to see that all the screws are tightened and that there are no screws that are bent or otherwise defective. The lack of tightness of a suction box frequently is due to the fact that this precaution has been overlooked. The wooden cover should be planed perfectly true.

Wooden suction boxes should be examined to see that the wood is perfectly sound throughout; and any places showing signs of rot should be repaired.

We very strongly recommend always keeping a spare siphon and also a spare suction box, ready for use, as this can very often save a lot of valuable time.

Of course, all that has been said of suction boxes equipped with siphons holds good for boxes epuipped with suction pumps, the principle remaining the same in the latter case: check up first the suction apparatus, and then the box itself.

Notes

The selection of the suction apparatus (pump or siphon) must be made according to past experience and depends on the grade of paper being made. The siphon gives a more uniform vacuum, the pump, a higher one.

We would recommend the use of cast iron suction boxes with beechwood covers which should be kept under water, preferably to ebonite. The wire does not wear down as rapidly on wood as on ebonite, and moreover the former is easier and cheaper to repair.

In our estimation, the covers should be secured by means of brass machine screws, as shown in Figure 2, which are easier put in place and are more secure than wood screws placed as shown in Figure 3. The holes *T* can either remain open or else be filled with wooden pegs or with a suitable putty. If pegs are used, it is very important that they be cut so that the grain of the wood will lie parellel to the grain of the cover. If they were cut with the grain vertical, for instance, they would wear down more slowly than the top of the cover and would thus allow air to leak through under the wire.

Mill of Fall Creek Paper Co. Burned

[FROM OUR SPECIAL CORRESPONDENT]

ITHACA, N. Y., September 8, 1925.—The plant of the Fall Creek Paper Company was destroyed by fire last week (Tuesday) with a loss estimated by Albert G. Brown, proprietor, of about $25,000.

The mill was one of the oldest left in this city. For many decades the plant was operated by the Enz & Miller Paper Company, it being the first of the series of mills erected along Fall creek to benefit by the water power derived above Ithaca Falls, including the Ithaca Gun Company, the Fall Creek Milling Company and the Empire Paper Company.

Albert G. Brown obtained the mill and rebuilt it in 1916, since which date it has been in constant operation. A carload of paper ready to be shipped was destroyed by the fire, with all epuipment and machinery. The building and contents was only about half covered by insurance, Brown stated tonight. As soon as sufficient capital can be raised, the mill will be rebuilt and the paper industry conducted as before the fire, the proprietor announced on the evening of the fire.

William Barber, Syracuse, N. Y., was the sales agent for the production of the mill.

Machinery Arrives for Dublin Pulp Mill

[FROM OUR SPECIAL CORRESPONDENT]

DUBLIN, Ga., September 8, 1925.—Machinery for the new pulp mill is arriving daily now. Already 30 cars have reached here and are being unloaded. Work on the buildings will commence in a few days and will be rushed to completion. The plant has an ideal location for an industry of this nature, on the Oconee river just beyond the city limits.

At the recent meeting of the local stockholders J. M. Finn and I. Bashinski were named as the local directors.

The citizens of Dublin and Laurens county are keenly interested in the progress of the plant as it will mean a great deal to this section, not only in using waste material, but rendering the land easier of cultivation.

Chemistry of the Sulphite Process *

VIII.—Studies of the Acid Hydrolysis of Wood

R. N. MILLER [1] AND W. H. SWANSON [2]

The species of wood which serves most commonly as the raw material for the manufacture of sulphite wood pulp is white spruce. Balsam fir and hemlock are also used, and other species in smaller quantities.

The composition of spruce wood, as recorded in the literature, varies considerably with the methods employed in the analysis. Practical agreement is found as to the main constituents, but not as to their exact grouping. A typical analysis by Klason [3] gives: Cellulose free from pentosans, 53 per cent; hemicellulose, 15 per cent; lignin, 30 per cent; fat, resin and proteins, 2 per cent. Johnson and Hovey [4] find cellulose, 50.33 per cent, lignin 24.44 per cent as constants for balsom fir. The methods of Schorger [5] at the Forest Products Laboratory show as a typical analysis of spruce wood: Cellulose 55.4 per cent; lignin, 28.3 per cent; pentosans, 11.8 per cent; soluble in 7.14 per cent sodium hydroxide, 18.55 per cen; soluble in 1 per cent sodium hyroxide, 8.8 per cent; soluble in ether, 1.24 per cent. From these results it can be seen that while the distribution of constituents may vary, spruce wood may be taken to consist of a more resistant carbohydrate called cellulose, certain less resistant carbohydrates (called variously hemicelluloses, pentosans, etc.), lignin, and extractives, which latter class may be defined as materials consisting of resinous and fatty bodies soluble either in a mixture of benzene and achohol or in ether.

The analytical methods employed in the present study were: (1) Schorger's modification of Cross and Bevan's chlorination method for cellulose; (2) lignin determination by means of 72 per cent sulphuric acid; and (3) Allihn's [6] modification of Fehling's method for determination of reducing sugars. It is appropriate to note here that when the terms cellulose, lignin, etc., are used in conection with experimental results, they refer only to the material as defined by the analytical methods used.

Cross and Bevan [7] and Cross and Engelstadt [8] have advanced the idea that sulphurous acid is the active chemical in the sulphite process. More commonly the view is held, however, that the part of the cooking liquor known as "free," that is, all acid in excess of a monosulphite compound of the base, is the active constituent. The concept of the reactions of the sulphite pulping process that has at times seemed to the authors of paramount importance is that it is, from one point of view, essentially an acid hydrolysis of wood. The reaction from the standpoint of hydrolysis has therefore been made the subject of special study in the work reported here, and the results are interpreted from that point of view throughout.

The behavior of wood toward hydrolytic attack has been studied under a variety of conditions by Kressman, [9] Sherrard and Blanco, [10] Hägglund, [11] Klason, [12] and others. Generalizing from their results it may be stated that spruce wood when subjected to hydrolytic attack will yield a variety of reducing sugar with more or less marked reduction in the amount of stable cellulose, and with little or no change in the lignin content of the wood except in the presence of sulphurous acid and bisulphites.

Hydrolysis of Wood With Hydrochloric Acid

It seemed desirable at the start of this study to establish a conception of the acid hydrolysis of wood in terms of the analytical methods to be employed and under a range of conditions, as regards destruction of cellulose, comparable with those obtaining in bisulphite cooking. To this end hydrocloric acid in a graduated series of weak concentrations was selected at the hydrolytic reagent, and white spruce, ground to pass an 80-mesh but to remain on a 100-mesh screen and extracted with a mixture of benzene and alcohol in proportion of 2 to 1, as the wood to be hydrolyzed.

The hydrochloric acid was prepared in a series of concentrations ranging from 0.05 to 3.00 per cent. Five-gram samples of the finely ground wood were heated with 100 cc. portions of the acid in a water bath at 06° C., under a reflux condenser, for six hours. The loss in weight suffered by the wood was determined and the residue was examined for cellulose.

The extract from the wood was divided into two parts. In one the reducing sugars were determined directly. The other part was rehydrolyzed by boiling again under a reflex condenser for three hours with three per cent hydrochloric acid,‡ and the reducing sugars were determined as before. The results obtained in both treatments are shown in Table 1.

TABLE 1

HYDROLYSIS WITH HYDROCHLORIC ACID

(All results are expressed as percentages of the weight of the original wood)

Concentration of HCl	Weight loss on hydrolysis	Reducing sugar formed during hydrolysis	Reducing sugar after rehydrolysis	Cellulose in residue	Lignin in residue	Cellulose loss on hydrolysis	Material unaccounted for
%	%	%	%	%	%	%	%
Original wood				58.88	28.55		12.57
0.05	9.98	2.31	6.59	51.18	28.55	7.70	13.68
0.10	12.72	3.50	8.57	50.96	28.55	7.92	11.92
0.15	14.67	4.54	12.07	50.08	28.55	8.80	9.30
0.25	14.75	7.32	13.15	50.89	28.55	7.99	7.41
0.50	18.33	12.52	16.28	49.06	28.55	9.82	6.11
0.75	20.13	16.15	19.00	48.31	28.55	10.57	4.14
1.00	20.16	16.37	18.05	48.61	28.55	10.27	4.79
1.50	18.78	14.12	17.34*	48.74	28.55	10.14	5.37
2.00	19.28	15.24	17.48†	48.62	28.55	10.26	5.35
2.50	20.17	16.37	18.67	48.79	28.55	10.09	3.99
3.00	20.95	17.54	19.40	48.70	28.55	10.18	3.35

* Rehydrolized with 1.5% HCl.
† Rehydrolized with 2% HCl.

The loss in weight suffered by the wood under the primary hydrolytic treatment increases decidedly as the acid concentration is increased, until 0.75 per cent is reached. From that point on the loss in weight becomes nearly enough constant to suggest either a marked decrease in the rate of reaction, or else a complete cessation. The latter is unlikely, as it has been shown that mineral acids may bring about complete desolution of the carbohydrate material of wood upon treatment at high concentrations. Rather, an acid concentration of 0.75 per cent seems the point of differentiation between two parts of the carbohydrate material with respect to their resistance to such hydrolytic conditions as are represented in the experiment.

The determination of reducing sugars (Column 3) shows a reduction in rate of their formation at about the same point as the reduction in rate of weight loss. The determination of reducing sugars after rehydrolysis of the extract with 3 per cent hydro-

‡ The quantities marked with an asterisk in Table 1 (fourth column) were obtained with 1.5 per cent and 2 per cent hydrochloric acid respectively, and are therefore somewhat low.

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[2] Assistant wood technologist, U. S. Forest Products Laboratory, Madison, Wis.

[3] *Svensk Pappers Tid.* 26, 319-22 (1923).
[4] *Paper*, Vol. 21, 40 (1918).
[5] *J. Ind. Eng. Chem.*, Vol. 9, 556 (1917).
[6] *J. Assn. Off. Agr. Chem.*, pp. 107-108, (1916); See also Leach, *Food inspection and analysis*, 4th ed., p. 633.
[7] *A text book of paper making* 5th ed., p. 73.
[8] *J. Soc. Chem. Ind.*, 43, 253T-257T, Also *Paper* vol. 34. No. 18, Aug. 1924.
[9] *U. S. Department of Agr. Bull.* 963.
[10] *J. Ind. and Eng. Chem.*, vol. 15, No. 6, p. 611 (June 1923).
[11] *Svensk. Kem. Tids.*, vol. 35, pp. 2-24 (1923).
[12] *Paper*, vol. 35, No. 1, Oct. 23, 1924.

chloric acid (Column 4) shows an approach to constancy quite comparable to that shown by the loss in weight of wood; not only so, bu the reducing sugars now fall but little short of accounting for the whole loss in weight. From these results it seems that the carbohydrate material of wood most subject to removal by the mild acid hydrolysis represented is, in part at least, removed as a non-reducing body and is further broken down by the rehydrolysis. This is in confirmation of earlier observations of Sherrard and Blanco.[32]

The values for cellulose in the residue (Column 5) show a slow decrease in the earlier range of the hydrolysis. The highest of the figures after hydrolysis is, however, in marked reduction from the initial value, 58.88 per cent, obtained on the unhydrolyzed wood, and shows that part of the carbohydrate material included in the cellulose determination in wood, as performed at this Laboratory, is much more susceptible to hydrolytic attack than the rest. Similar effects are noted by Dore [34] and also by Johnsen and Hovey [4] in their work on the analysis of wood. The former includes, in his analytical summary, determinations of material soluble in 5 per cent caustic, besides mannans, galactans, and unaccounted for pentosans. The latter investigators provide a preliminary hydrolysis with cetic acid and glycerine as one step in the determination of cellulose in balsam fir.

From the foregoing analysis of the data, it is evident that the carbohydrates that are removed from wood by acid hydrolysis of varying intensity, within the range examined, come from at least two different sources or groups of bodies, and with different degrees of reluctance.

Again, if it is assumed, as is done throughout this paper, that the hydrolytic action does not alter the inertia of the cellulose

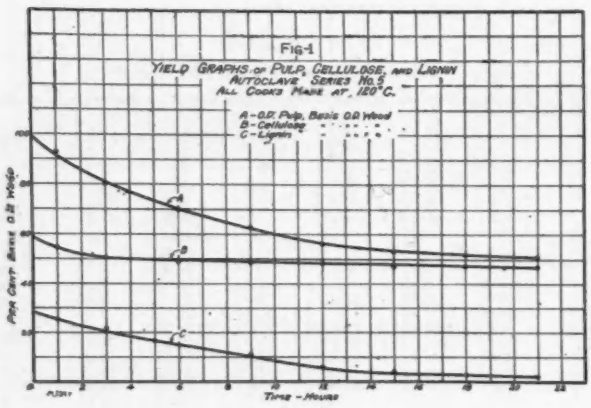


Fig. 1

toward the manipulations of the cellulose determination, it is interesting to observe that the reduction in cellulose in the experiment with the weakest acid is approximately equal to the reducing sugars formed, and that the reduction in cellulose does not increase greatly with the more drastic treatments. From Table 1 it can be seen that the material unaccounted for, obtained by adding together the analytical results for lignin, cellulose, and reducing sugars after rehydrolysis, and subtracting from 100, decreases slowly as the strength of the acid increases. The loss in cellulose reaches a slow rate of change early in the series, whereas the reducing sugars in the rehydrolyzed extract increase at a rate comparable to the reduction in amount of material unaccounted for. It is, therefore, possible to conceive of the carbohydrate materials of wood as existing in three groups: (1) Those most resistant to hydrolytic attack and, (2) those least resistant, both of which are grouped as cellulose by the analytical method; and, (3) a class of intermediate resistance, referred to by various writers as pentosans, carbohydrates other than cellulose, etc.

[32] *J. Ind. and End. Chem.* 15, 1166 (1923).
[34] J. Ind. Eng. Chem., 12 pp. 264 and 476.
[4] *See* Miller and Swanson, *Paper Trade Jour.*, April 13, 1922.

Hydrolysis With Sulphite Cooking Acid

Next, for the investigation of the acid hydrolysis of wood under conditions related to the foregoing but also favorable for the removal of lignin, that is, with sulphite cooking liquor, a special apparatus was contrived and a technique developed.

Apparatus

An autoclave of bronze, capable of withstanding high pressures and the solvent action of the cooking acid, was the digester used. Details of its construction are shown in the accompanying

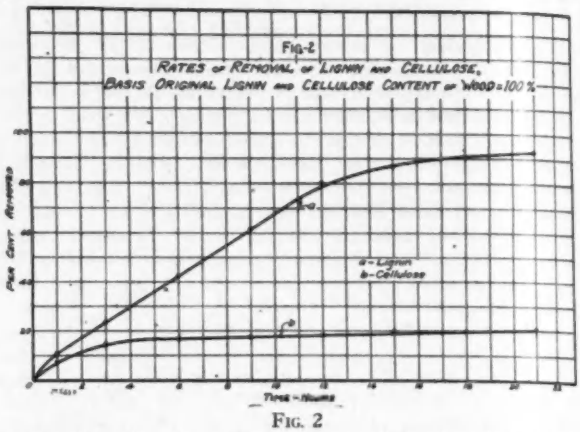


Fig. 2

sketch (Fig. 3). It was heated in a well insulated bath of oil. Heat was supplied by two Simplex electric immersion heaters of 440 watts capacity, operating at 110 volts. One, the primary heater, was connected through a rheostat with the source of current. This heater was used constantly, and with proper adjustment of the rheostat would maintain the oil within two or three degrees of the desired temperature. The secondary heater, furnishing the heat required to maintain the bath at the exact temperature, worked intermittently. It was connected to the source of current through a relay circuit breaker actuated by an adjustable mercury thermo-regulator immersed in the oil. Temperatures up to 150° C. could thus be maintained within ± 0.5° C. of that required.

Modifications of procedure were made to correct for irregularities that appeared in the preliminary runs, and the experimental procedure as now used may be described in detail as follows:

Preparation of Wood

Spruce ground to 40-60 or 60-80 mesh size was the material cooked. It was extracted with a 67 per cent benzene, 33 per cent alcohol mixture for 6 hours in a Soxhlet extractor in order to remove resins and waxes. Also, the wetting of the wood was thus enhanced. The sample for cooking was weighed approximately into a weighed aluminum can. Can and contents were then dried at 105° C. for five hours, cooled in a desiccator, and weighed to determine the oven-dry weight of the charge. About fifteen grams of wood made a convenient portion. The wood was then transferred to a 250 cc. tall form pyrex beaker cut off just below the lip, making a size which fitted conveniently within the autoclave.

Liquor Preparation

The cooking liquor was made up in 250 cc. quantities, which amount was sufficient for one cook. Stock solutions of sulphurous acid and sodium bisulphite make a satisfactory source, respectively, for the acid and salt used in the liquor making. The two solutions were analyzed in the usual manner with N/16 iodine solution to determine the total sulphur dioxide. The Sander analysis [35] was used to determine the bisulphite in the bisulphite solution. Five per cent total sulphur dioxide for the sulphurous acid and 7 per cent for the bisulphite solution were convenient strengths for the stock solutions. From the analysis the correct quantities of each solution necessary to produce the desired concentration of cooking acid when diluted with distilled water to 250 cc. were calculated.

[35] *See* Miller and Swanson, *Paper Trade Jour.*, April 13, 1922.

TABLE 2

ACTION OF SULPHITE COOKING LIQUOR AT 120° C. FOR VARYING LENGTH OF TIME

Cook No.	Weight of wood oven-dry	Duration of cook	Weight of oven-dry pulp	Yield of oven-dry pulp on basis of oven-dry wood	Lignin on basis of oven-dry pulp	Lignin on basis of oven-dry wood	Lignin removed on basis of original lignin present	Cellulose on basis of oven-dry pulp	Cellulose on basis of oven-dry wood	Cellulose removed on basis of original cellulose present	Residue not accounted for as lignin and cellulose on basis of oven-dry wood
	g.	hr.	g.	%	%	%	%	%	%	%	%
74	15.0913	1	14.0134	92.85	27.38	25.42	10.96	58.49	54.58	7.32	12.85
73	15.0743	3	12.1128	80.35	27.11	21.78	23.71	62.66	50.35	14.48	8.22
76	15.0734	6	10.5458	69.93	23.65	16.54	42.06	70.13	49.04	16.71	4.35
79	15.0670	9	9.4418	62.66	17.48	10.95	61.64	77.66	48.66	17.37	3.05
80	15.0874	12	8.4545	56.03	10.12	5.67	80.14	85.94	48.15	18.22	2.21
78	15.1848	15	8.0778	53.19	6.89	3.66	87.18	88.66	47.16	19.90	2.37
77	15.0766	21	7.6801	50.94	3.97	2.02	92.92	91.69	46.70	20.68	2.22
75	15.1081	18	7.8261	51.80	5.13	2.66	90.68	91.30	47.29	19.68	1.85

Wood Used—White spruce, 40-60 mesh, benzene-alcohol extracted.

Analysis — Cellulose—58.88%
Lignin — 28.55%

Acid Analysis — Total SO_2.....3.00%
Free SO_2:.....2.00%
Combined SO_2..1.00%
Excess SO_2.....1.00%

After the acid was made up, its composition was checked by analysis.

Two hundred cubic centimeters of the acid were siphoned into the beaker containing the wood, and 40 cc. more were poured into the autoclave around it. A lead disc was placed over the beaker, after which the autoclave cap was tightened on.

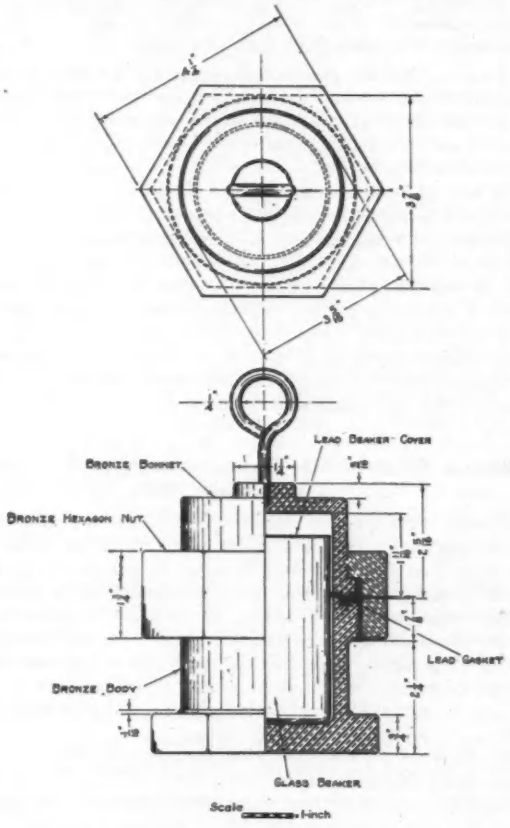
COOKING

The oil bath having been brought to a temperature 8°to 10° C. above that at which cooking was to be carried on, the autoclave was immersed, and when the temperature had dropped to the desired point, usually in about five minutes, the thermo regulator was adjusted to maintain it there. The time at which the desired temperature was reached was taken as the starting point of the cook. When the autoclave had been in the oil for the intended length of time, it was withdrawn and cooled in a bucket of water. It was then opened, the beaker and contents were removed, and the pulp was separated from the liquor on a filter folded to fit a Buchner funnel. The paper had previously been dried at 105° C. and weighed in a covered aluminum dish.

After filtration and washing with hot water the pulp was air-dried for 16 hours, oven-dried for 5 hours at 105° C. in the aluminum weighing dish, cooled, accurately weighed, and the yield thus calculated. The pulp was then analyzed for lignin and cellulose in the manner noted earlier in this paper.

The results of the analyses are recorded in Table 2 and are shown graphically in Figs. 1 and 2. The figures for yield, or residue after cooking, follow a descending curve with increasing time, but at a decreasing rate of change that becomes quite slow in the later stages. The curve showing the removal of so-called cellulose material (as defined by the application of the Cross and Bevan method) indicates a rapid onset followed by a slow continuation in the later stages of the reaction. The rate of removal of lignin is steady up to about the twelfth hour but decreases thereafter. The results confirm those previously obtained on a large scale.[18]

The reaction involving the removal of carbohydrate material from the wood shows certain similarities to that in the previous series in which hydrochloric acid was used. The reduction in amount of material determined by the application of Cross and Bevan's cellulose method to the residue after cooking is, as just stated, rapid at first and reaches a slowly changing value early in the series. The quantity of so-called cellulose showing a resistance to prolonged acid treatment at the higher temperature used is very close to that which in the previous series showed resistance to increased concentration of acid. That the resistance is not perfect is shown by the lower values appearing, especially, at the end of 15, 18, and 21 hours.



BRONZE AUTOCLAVE FOR SULPHITE COOKING

FIG. 3

With further reference to the analysis of wood according to Dore, or the results of Klason, attention is again directed to the group of poorly defined materials of carbohydrate nature which are not included in the part often referred to as cellulose. In the first series of experiments (Table 1) considerable proportions of these ordinarily unaccounted for substances were left in the wood residues after hydrolysis. In the second series the more complete degradation of the wood has been accompanied by their more nearly complete removal. (See Table 2, last column.)

In the first series it was shown that a part of the carbohydrate material defined as cellulose by the analytical treatment was very susceptible to mild hydrolytic attack, and that the materials unaccounted for in the analytical methods used, and frequently defined as pentosans, are more resistant. The same conditions can be seen to exist in the second series. The values for cellulose based on weight of original wood show an immediate initial drop, while the portion of the residue unaccounted for in the analytical methods

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TABLE 3

SULPHITE COOKS WITH VARYING TEMPERATURE AND ACID CONCENTRATION

Cook No.	Weight of wood oven-dry	Acid — Analysis — Total SO_2	Free SO_2	Combined SO_2	Excess SO_2	Quantity	Cooking temperature	Duration of cook	Weight of oven-dry pulp	Yield of oven-dry pulp on basis of oven-dry wood	Lignin on basis of oven-dry pulp	Lignin on basis of oven-dry wood	Lignin removed on basis of original lignin present	Cellulose on basis of oven-dry pulp	Cellulose on basis of oven-dry wood	Cellulose removed on basis of original cellulose present
	g.	%	%	%	%	cc.	° C.	hr.	g.	%	%	%	%	%	%	%
47	14.301	3.00	2.00	1.00	1.00	200	120	20.00	7.3589	51.46	3.02	1.55	94.89	94.93	48.27	16.48
32	14.301	4.00	3.00	1.00	2.00		120	14.00	7.0286	49.14	2.95	1.45	95.22	94.55	46.46	19.61
31	14.301	5.00	4.00	1.00	3.00		120	10.50	7.0018	48.96	2.82	1.38	95.45	95.67	46.84	18.96
37	14.301	3.00	2.00	1.00	1.00		130	10.50	7.0409	49.23	2.88	1.42	95.32	95.07	46.80	19.01
35	14.301	4.00	3.00	1.00	2.00		130	7.00	6.8909	48.18	2.37	1.14	96.24	96.13	46.31	19.87
25	14.301	5.00	4.00	1.00	3.00		130	4.75	6.9755	48.77	2.44	1.19	96.08	93.87	45.78	20.79
39	13.875	3.00	2.00	1.00	1.00		140	5.25	6.8601	49.44	2.56	1.26	95.85	96.18	47.55	17.73
50	14.301	4.00	3.00	1.00	2.00		140	3.25	7.1083	49.70	3.27	1.62	94.66	95.08	47.27	18.22
51	14.301	5.00	4.00	1.00	3.00		140	2.75	6.9672	48.72	2.11	1.02	96.69	95.27	48.41	16.24
40	14.300	3.00	2.00	1.00	1.00		150	2.75	6.8788	48.10	2.02	0.97	96.80	96.45	46.39	19.76
54	14.300	4.00	3.00	1.00	2.00		150	2.00	6.8868	48.15	2.37	1.14	96.24	96.20	46.33	19.88
34	14.300	5.00	4.00	1.00	3.00		150	1.33	6.9789	48.79	5.89	2.87	90.54	92.33	45.04	22.07

Wood Used—White spruce, 60-80 mesh, not extracted.

Analysis — Cellulose....57.80%
Lignin 30.36%

used shows a continuous decrease, but without reaching zero. The latter fact should occasion no surprise, as it has been shown by Sieber[18] and others that sulphite pulps always contain a portion of furfural-yielding bodies.

Of especial interest is the fact that the part of the cellulose most susceptible to hydrolitic attack is removed so easily, with or without accompanying lignin removal. Nor does there seem to be any interdependence whatever between the removal of lignin and that of the carbohydrates other than cellulose, the latter having been reduced practically to the minimum before the lignin had been removed even to the extent of one-half.

The general similarity of the results obtained in the two series of experiments indicates that the reaction upon the carbohydrate materials of the wood remains unaltered by the presence or absence of lignin.

Relative Effects of Acid Concentration and of Temperature Upon Cooking Time

The idea of a differentiation between more and less stable carbohydrate material in the wood having been fortified by the results of the study thus far, it seemed desirable to examine the reactions under different but comparable conditions of temperature, acid concentration, and time of cooking. To this end the series of cooks, results for which are tabulated in Table 3, was performed. The aim in all instances was to reduce the lignin to between one and two per cent of the weight of the wood.

It may be remarked that the effect upon the rate of cooking shown by both temperature and acid concentration change is in the direction which earlier experiments on a larger scale, already reported, had indicated.[17] The greater refinement of the later experiments, however, makes possible a more exact estimate of the relative magnitude of the effects of temperature and acid concentration on the rate of cooking.

It has been shown, in this report and also in earlier publications,[17] that the removal of carbohydrate material from wood by sulphite cooking proceeds much more rapidly than the removal of lignin. The factor controlling the rate of pulping, then, must be the rate at which lignin is removed. In the cooks here reported it is seen that at any particular acid concentration within the experimental range (between 1 and 3 per cent excess sulphur dioxide) the rate of cooking is doubled by each successive ten-degree increase in temperature between 120° C. and 150° C.,[18] with but slight tendency toward greater loss of cellulose at the higher acid concentrations. Also, at a particular temperature, a change in acid concentration from 1 to 3 per cent is necessary to make an equivalent change in rate. As pointed out in a previous paper, such a change in acid concentration is not possible in present commercial practice.

It is a quite fortuitous circumstance that the resistance of the desired fibrous carbohydrate material of wood to sulphurous acid hydrolysis should be such as to permit the removal of the lignin by the same reagent, and further remarkable that such a wide variation in cooking conditions should produce approximately the same amount of pulp of approximately the same composition. The picture of the course of the sulphite pulping reactions that can be drawn from the foregoing results is not that of a successive breaking down of the wood in various parts, but rather that of a set of simultaneous reactions proceeding at different rates.[19]

[16] In *Paper*, Vol. 34, No. 17, August 14, 1924.
[17] *See* Miller and Swanson, *Paper Trade Jour.*, Apr. 10, 1924.
[18] *Cf.* R. Manisawa; *Eng. Chem. Jour.* (Japan), 1, 194-206 (1921).
[19] *See* Sieber, *loc. cit.*

TABLE 4

SULPHITE COOKS WITH ADDED REAGENTS

(All cooks at 120° C. for 6 hours)

Cook No.	Weight of wood oven-dry	Acid — Analysis — Total SO_2	Free SO_2	Combined SO_2	Excess SO_2	Reagent added	Concentration of reagent	Weight of oven-dry pulp	Yield of oven-dry pulp on basis of oven-dry wood	Lignin on basis of oven-dry pulp	Lignin on basis of oven-dry wood	Cellulose on basis of oven-dry pulp	Cellulose on basis of oven-dry wood
	g.	%	%	%	%		%	g.	%	%	%	%	%
68	14.3559	2.55	1.55	1.00	0.55	None	...	11.0526	77.00	25.13	19.35	67.67	52.10
63	14.9868	2.50	1.50	1.00	0.50	HCl	0.50	9.8402	65.66	21.73	14.27	75.27	49.42
64	14.9408	2.50	1.50	1.00	0.50	NaCl	0.50	11.3767	76.16	24.24	18.56	66.68	50.78
65	14.9346	2.50	1.50	1.00	0.50	CH_3COOH	0.50	11.3529	75.68	24.48	18.53	67.69	51.23
82	14.8461	2.50	1.50	1.00	0.50	CH_3COONa	0.50	12.1442	81.80	26.48	21.66	63.74	52.13
70	14.8833	3.00	1.76	1.24	0.52	$NaHSO_3$	0.48*	11.6430	78.23	24.61	19.25	67.00	52.41
71	14.7515	2.50	1.50	1.00	0.50	$NaHSO_4$	0.50	10.8072	73.26	24.60	18.02	69.40	50.84
67	14.8070	2.93	1.99	0.94	1.05	None	...	10.2875	69.47	21.49	14.93	72.01	50.52
72	14.8789	1.00	1.00	0.00	1.00	NaCl	1.82†	9.9232	66.69	32.98	21.99	64.64	43.11
81	15.5012	1.00	1.00	0.00	1.00	CH_3COONa	2.56‡	13.6356	87.96	27.02	23.76	61.05	53.70

Wood Used—White spruce, 60-80 mesh, benzene-alcohol extracted

Analysis—Cellulose 60.82%
Lignin 27.90%

* 0.48% SO_2 as $NaHSO_3$
† 1.82% NaCl = 2.00% $NaHSO_3$ (NaCl substituted for $NaHSO_3$ in acid)
‡ 2.56% CH_3COONa = 2.00% $NaHSO_3$ (CH_3COONa substituted for $NaHSO_3$ in acid)

Effect of Acids and Salts on Cooking Action

With reference to the changes that might be manifest in the qualities of the residual fibrous material as a result of adding reagents to alter the rate of lignin removal, much speculation has prevailed, and some experiments are on record. The following

cooks, the results of which are given in Table 4, were performed to show the effects producible by the addition of a few simple chemicals to the cooking liquor.

As standards of comparison, the two cooks, No. 67 and No. 68, were made with 1.05 per cent and 0.55 per cent excess sulphur dioxide respectively. A six hours' cooking period was allowed in all cases, and conditions were identical in all respects except for the addition or substitution of some reagent.

In cooks Nos. 63, 64 and 65 enough hydrochloric acid, sodium chloride, and acetic acid, respectively, were added to produce one-half per cent concentration of each in a cooking acid containing the usual one per cent combined sulphur dioxide and one-half per cent excess sulphur dioxide. The results in all three cases show a tendency toward the removal of more lignin and cellulose than in cook No. 68. The difference is most decided in the case where hydrochloric acid was added. Cook No. 71, in which sodium bisulphate was added, also shows a tendency toward rapid removal of lignin and cellulose, while in cook No. 82, with sodium acetate, the same cellulose destruction is seen with less lignin removal. Cook No. 70, with an extra one-half per cent of sodium bisulphite, is little different from the control in cook No. 68. In cooks Nos. 72 and 81 the only base present was that added as sodium chloride and sodium acetate in amounts equivalent to the quantity of sodium bisulphite necessary to give one per cent combined sulphur dioxide. In the case of cook No. 72 containing sodium chloride, a decided increase in the destruction of cellulose is seen without accompanying acceleration in lignin removal; the pulp was decidedly burned. Cook No. 81, with sodium acetate, shows a decided and general slowing up of the reaction.

It is unprofitable to generalize too widely on results with so small positive differences, but it may be observed that there is a tendency for strong acids and salts of strong acids to "speed up" the reaction; while weak acids or salts of the same have a contrary effect, if any. Such a generalization points directly to the theory of the pulping process as an acid hydrolysis of wood, and to a consideration of the influence of the concentration of the hydrogen ion on the pulping process. Results of experiments to establish the possible relation of hydrogen-ion concentration to the sulphite pulping process will be included in a future paper of this series.

Summary

The results recorded in this paper show:

1. That the same amount of carbohydrate materials are removed from wood by mild hydrolysis with hydrochloric acid as are removed by sulphite digestion which reduces the lignin content of the residue below 2 per cent.

2. That the carbohydrate materials removed by hydrolysis are, in part at least, removed as complex bodies that can be further hydrolyzed to reducing sugars.

3. That the time of lignin removal by the sulphite reaction is reduced approximately one-half by each ten-degree increase in temperature between 120° C. and 150° C.

4. That a change in acid concentration from 1 per cent to 3 per cent is necessary to reduce the time of lignin removal by one-half.

5. That the tendency of salts of strong acids added to the cooking liquor is to increase the rate of reaction, and for those of weak acids to decrease the rate of reaction, suggesting a process dependent upon hydrogen-ion concentration.

Lockport Paper Co. Burned

LOCKPORT, N. Y., Sept. 8, 1925.—The explosion of a drum of oil in the shingle mill of the Lockport Paper Company Tuesday of last week started a fire which swept the building with an estimated loss of $200,000. One workman was burned severely.

The blaze drove employees from the building and compelled the firemen to fight the flames from the outside. A fire wall protected the machinery and tanks of compound used to saturate the paper shingles. The electrical plant was destroyed.

Prices Advance in German Paper Market

WASHINGTON, D. C., September 1, 1925.—Conditions in the German paper market, with the exception of some increases in prices, have not changed essentially during the last four or five weeks, says a report to the Paper Section of the Department of Commerce from Consul General Dumont at Frankfort. The report continues:

The mills continue well occupied; there is general complaint of money stringency, slow payments, and heavy costs of operating; and manufacturers maintain that they are scarcely covering expenses. Prices for certain kinds of paper were advanced on June 27, and, unless changes occur in the price of chemical pulp, it is expected they will continue in force until the end of September. There is a continued inquiry for pulp wood and prices show little change.

Prices of papers containing mechanical pulp, other than printing papers, were advanced 50 pfennigs per 100 kilos (5½ cents per 100 pounds) for groups 1x and 1a, and 1 mark per 100 kilos (approximately 12 cents per 100 pounds) for groups 2 to 6. "Wood free" papers were likewise increased 1 mark per 100 kilos.

Inquiries for board of various kind, contrary to expectations, continues unabated and deliveries by the mills are heavier than for several weeks. The demand for machine-made leather board is particularly brisk and the mills are behind in deliveries of this grade.

Foreign inquiries for rags, especially from the United States, has fallen off considerably of late as importers are unwilling to pay any higher prices. The domestic demand for rags of all sorts continues brisk, but prices are depressed. Consumers are demanding credits up to 90 days, which the sellers are unable to grant. Business in old paper is said to be slow as paper-working concerns refuse to sell their stocks at the prevailing prices in view of the recent increases in mill prices. Wholesalers are paying for 10-ton lots, f.o.b. railway station, 5 to 5.25 marks per 100 kilos (50 to 57 cents per 100 pounds) for mixed-waste and 7.5 marks per 100 kilos (81 cents per 100 pounds) for newspaper. The Government has announced that no changes are to be made in the present regulations governing the exportation of rags and old paper, and no limitations will therefore be placed on exports through prohibition or the levying of export duties.

Pacific Paper Products Co. to Make Bread Wraps

TACOMA, Wash., August 27, 1925.—Printing and manufacture of waxed bread wrappers and similar forms of waxed paper, has been begun by the Pacific Paper Products Company Monday in its plant at 1133 East D street, on the tideflats near the eastern end of the 11th street bridge.

The company has just completed the installation of printing presses and other machinery to print the rolls of paper before it goes to the waxing machines and to handle it in either roll or flat cut form as it comes from these machines. Up to the present time it has been confined in its manufacture to wax lunch rolls and similar unprinted forms of the wax paper trade.

The bread wrapper business is opening up with big promise and the plant probably will have to go on a double shift basis in another month, according to J. A. Martin, president and manager of the company. At present about 30 persons are employed. Some lettuce liners and packers have been produced for the lettuce shipping business of the Puyallup valley.

The entire building, 50 by 100 feet, under lease by the company, is now full of machinery or otherwise occupied in the process of manufacture and offices have been moved to a nearby building.

Buys Toronto Paper Mills

STEUBENSVILLE, Ohio, September 8, 1925.—George E. Wisener, general manager of the Mingo Junction and Bellaire plants of the Carnegie Steel Company has purchased the Toronto Paper Mills at public sale for $63,000.

He announced that the plant, long idle, is to be put in shape for resumption of operations within 30 days.

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Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Power and Applications

Drying of Wood Refuse and Its Importance to Industry. A. J. T. Taylor and Otto Nordstrom. Paper Trade J. 80, No. 1, 49-60 (Jan. 1, 1925). A discussion of the desirability of drying moist fuels before burning them, illustrated by means of curves, some of which have not been previously published, together with a detailed description of the construction, operation and tests of the Nordstrom waste wood drying plant erected at the Vastervik Paper Mills, which is doing the work guaranteed by the inventor and contractor. Its application to the drying of sulphate pulp chips is also discussed.—A. P.-C.

Drying Wood Room Refuse for Fuel. A. J. T. Taylor. Pulp & Paper International No., 143-150 (Jan. 1925); Paper Ind. 6, 1965-1969 (Feb. 1925). With the amount of waste heat available in pulp and paper mills, and using it with an efficiency of 70 per cent or over, it is necessary that the wood waste be mechanically dried to not over 65 per cent in order to be able to further dry it to about 30 per cent moisture content. In the Nordstrom drying tower the wood (hogged if necessary) is fed from the top between two sheet iron, perforated towers, which are slightly sloping like truncated cones to prevent bridging of the chips. The gas from the boiler economizers is forced by a fan outwardly through the tower. The temperature of the gases entering the tower is maintained constant at 327° by a thermostat operating an Arca regulator which controls a damper to automatically introduce sufficient of the previously circulated air to reduce the temperature to the desired point. The efficiency of the tower is 70 per cent, and if the chips are delivered directly from the tower to the boilers and credit is given for the heat passing out in the dried fuel, the efficiency is 85 per cent. The cost of drying and financial return are discussed. The tower is suitable for drying chips before cooking by the sulphate or sulphite processes. when waste gases from sulphate recovery plants are used to dry chips, they are practically completely deodorized and the entrained alkali salts (up to 10 per cent of the total amount used) are held back by the chips, resulting in practically 100 per cent recovery.—A. P.-C.

Northern Bark Press. Paper 35, 317 (Dec. 11, 1924); Paper Trade J. 79, No. 26, 47 (Dec. 25, 1924). A description of the press, which was recently installed at the mill of the Abitibi Power & Paper Co.—A. P.-C.

Burning of Wood Refuse. R. L. Beers. Paper Trade J. 80, No. 6, 157-167 (Feb. 5, 1925); Paper 35, No. 17, 72-76 (Feb. 12, 1925). A general discussion of the conditions under which wood must be burned, as contrasted with coal, showing the merits of the underfeed stoker for drying out the wood refuse and maintaining optimum conditions for proper combusion.A. P.-C.

Steam Prime Movers for the Paper Mill. R. W. Leeper. Paper Trade J. 80, N. 6, 146-149 (Feb. 5, 1925). A comparison of the advantages and economy of various types of prime movers for paper mills.—A. P.-C.

Hydraulic Valves. Maurice Guillaume. Papier 28, 63-72 (Jan., 1925). A description of the different types of valves used in water lines of hydro plants, with a discussion of their respective merits.—A. P.-C.

Lubrication in the Paper Industry. Paper Mill 48, No. 50, 4, 24-34, 40 (Dec. 13, 1924); No. 51, 4, 24-28, 32-36 (Dec. 20, 1924). A detailed discussion of the proper kind of lubricants for the various machines used in the manufacture of pulp and the manufacture and conversion of paper.—A. P.-C.

Lubrication of Drying Chains. Pulp & Paper 22, 1305-1306 (Dec. 25, 1924). A discussion of the effects of speed, load, clearances and extent of bending on optimum lubricating practice.—A. P.-C.

Apex Co_2 Indicator. Paper Trade J. 79, No. 26, 58 (Dec. 25, 1924). A description of the instrument which has been developed primarily to meet the demand for the smaller steam power and heating plants for a simple and inexpensive instrument for measuring the fuel wasted up the chimney.—A. P.-C.

Use of Recording Instruments. Paper 35, 309-310 (Dec. 11, 1924). A brief discussion of their value in the pulp and paper mill.—A. P.-C.

Steam Accumulators, Their Principle and Importance to Heat-Using Industries. A. J. T. Taylor. Paper Ind. 6, 1553-1557 (Dec., 1924). Description of the Ruths accumulator and discussion of its merits.—A. P.-C.

Ruths Steam Accumulator in the Paper Industry. M. Marchand. Papier 27, 1107-1116 (Oct. 1924). A description of the apparatus and of its possibilities, and also of its actual performance in several pulp and paper mills.—A. P.-C.

Ruths Steam Accumulator and Its Applications. A. J. T. Taylor. Pulp & Paper, 63-72 (Jan. 15, 1925); Paper Trade J. 80 No. 5, 49-58 (Jan. 29, 1925). Description of the accumulator, of its applications in the pulp and paper industry, and of its merits.—A. P.-C.

New Ideas on the Purification of Boiler Feed Water. J. Neide, Zellstoff U. Papier 4, 285-286 (Nov. 1924). The deposition of sulphates in a boiler does not materially influence its operation because the scale is crystalline and heat-conducting; this is not so with carbonates. The removal of carbonates, humus substances, and slime from a boiler feed water is essential. The air in the water cannot be removed without heating strongly.—J. L. P.

Analysis of Fuels. H. Lehmann. Papierfabr. 22, 657-658 (Oct. 19, 1924). The following analytical tests for the evaluation of fuels are brifly given: moisture, coke, ash, and calorific value. The last mentioned test is made according to the Berthier method without employing a calorimeter.—J. L. P.

New Boiler for Powdered Coal. H. Winkelmann. Papierfabr. 22, 709-711 (Nov. 9, 1924). The Bettington type boiler system for the use of powdered coal is described. Data from actual runs are reproduced. The total effective heat available for power in a paper mill is 78.56 per cent.—J. L. P.

Regulation of the Draft of Boiler Fires. Anon. Papierfabr. 22, 729 (Nov. 16, 1924). The electrical apparatus of Adof Poggendorf (Ger. pat. 395-785) is described.—J. L. P.

Power Economy in Paper Making. R. Isnard. Papier. 27, 1293-1302 (Nov. 1924). An analysis of handling materials outside and inside the mill, pulping, beating, paper machines, pumps, prime movers, and mechanical transmissions from the standpoint of reducing power consumption to a minimum and obtaining maximum efficiency.—A. P.-C.

Maintaining Furnaces in the Paper Mill. H. C. Evans. Paper Trade J. 80 No. 3, 47-50 (Jan. 15, 1925). The author describes the method of maintaining furnace settings which was found most satisfactory and economical at the Alton Boxboard & Paper Co. It consists essentially in applying a thin coating of a certain refractory material, the name or nature of which are not mentioned. —A. P.-C.

Automatic Hydroelectric Generating Stations. C. E. H. Sothen. Paper Mill 49, No. 1, 4 (Jan. 3, 1925); No. 2, 14, 16 (Jan. 10, 1925). A description of some automatic stations installed to utilize small power sites which could not be economically operated

with continuous manual supervision, with a discussion of the advantages of such a system.—A. P.-C.

Rational Utilization of Exhaust Steam. E. Huc. Papier 27, 1213-1223 (Nov. 1924); 1343-1353 (Dec. 1924). The author discusses the different cases which can arise and the most economical solution to obtain most efficient utilization of the available energy of the steam, and then discusses various machines and auxiliaries sutiable for the purpose,—A. P.—C.

"Chameleon" Indicator in Pulp and Paper Manufacture. E. Belani. Papierfabr. 22, 853-854 (Dec. 25, 1924). The "chameleon" temperature indicator, which consists in bringing about color changes for definite temperature, is advocated for the pulp and paper industry.—J. L. P.

Application of Flowmeters to Paper Mills. D. B. Davies. Paper Ind. 6, 1739-1740 (Jan. 1925). Brief discussion of their importance.—A. P.-C.

Applications of the Brown-Boveri Quick-Acting Regulator in the Pulp Industry. V. Sylvestre. Papier 27, 1231-1237 (Nov. 1924); 28, 73-88 (Jan. 1925). A detailed description of the regulator and its operation, and of its application to the regulation of wood grinders and of paper machines.—A. P.-C.

Tests of Belting. R. F. Jones. Paper 35, No. 17, 149-154 (Feb. 12, 1925). Brief outline of important research work accomplished by the Leather Belting Foundation on certain belting problems, as follows: are of contact studies, effect of center distance on transmitting capacity effect of pulley size on transmitcapacity, effect on belt capacity of using small pulley to drive large one, and vice versa, study of the gravity idler (Lenix ting capacity, effect on belt capacity of using small pulley to drive miting capacity of leather belting.—A. P.-C.

Determination of Hydrogen Produced in a "General Electric" Electric Steam Generator. C. Dantsizen and E. H. Horstkotte. Pulp & Paper 22, 1251-1252 (Dec. 11, 1924); Paper Trade J. 79, No. 24, 43-44 (Dec. 11 1924); Paper Ind. 6, 1584, 1584a (Dec. 1924). Tests run on a 5,000 kw., 3-phase, 60-cycle generator, operating at 100 lb. gage, at the plant of the Union Bag & Paper Corp., showed that the evolution of gas (air and hydrogen) is greater when the generator is first started, and the evolution of hydrogen is also greater when the generator is first put into operation than after it has been running several hours. After conditions become constant the rate of generation remains constant for a constant current input. If the generator supplies steam to a circuit in which all condensate returns to an open hot well, it is impossible to accumulate sufficient hydrogen in the generator shell to form an explosive mixture of any magnitude. If it were operating on a closed system with no provision for removal of the hydrogen generated, a considerable accumulation of hydrogen would take place in the shell, which might be ignited by an arc drawn from the electrodes and exploded. There does not seem to be any danger of explosion in heating systems operating on steam from an electric steam generator.—A. P.-C.

Some Statements Corrected. Efficiency of Electric Steam Generation. Charles H. Leicester. Paper Trade J. 80, No. 3, 45-46 (Jan. 15, 1925). A discussion of the relative efficiencies of coal and electric steam generator, bringing out the efficiency and economy of electric steam generation when sufficient water power is available, and showing how this is particularly economical in British Columbia.—A. P.-C.

Control for Sectional Electric Paper Machine Drive. Harland Engineering Co. Fr. pat. 580,583. The invention covers means for controlling the motors at a distance, so that the control apparatus can be placed at any suitable location and distance from the machine.—A. P.-C.

Starting Up Sectional Electric Paper Machine Drive. Brown, Boveri & Co. Fr. pat. 583,729. In order to prevent overloading the generator and motors on starting up the machine, the exciter circuit is provided with a resistance which is short-circuited when the switch is thrown in. This increases the exciting voltage, and consequently also the starting torque. When the motors have reached a certain predetermined speed the resistance is automatically cut back into the circuit.—A. P.-C.

Harland Sectional Electric Paper Machine Drive. E. L. Clarke. Pulp & Paper 22, 1277-1279 (Dec. 18, 1924). A discription of the drive with a discussion of its merits.—A. P.-C.

Alternating Current Drive. Pulp & Paper 22, 1227-1228, (Dec. 4, 1924). Description of the sectional drive on the new wide paper machine at Empire Paper Mills, Greenhithe, London, by the British Thomson-Houston Co.—A. P.-C.

Electric Calender Drives. M. Misserey. Papier 28, 55-61 (Jan. 1925). A discussion of the requirements of calender drives and of the different possible electric drives and their respective merits and demerits.—A. P.-C.

Electrically Controlled Indicator Instruments for Waste Gases. Anon. Papierfabr. 22, 805-806 (Dec. 14, 1924). The construction and operation of electric indicator instruments for carbon dioxide and monoxide gases are discussed.—J. L.-P.

Control Device for Paper Machines. B. Wicky. Ger. pat. 401,656. Papierfabr. 22, 503 (Oct. 19, 1924). A new method for the electric control of paper and similar machines is described. —J. L. P.

Watermarking Paper. Geo. M. Wallace assignor to F. C. Huyck & Sons. U. S. pat. 1,514,238, Nov. 4, 1924. Watermarking is effected by means of a roll covered with a heavy, felted woolen fabric with a raised marking design. The design is preferably formed upon a strip of finely woven and heavily felted wool fabric, and the strip is spirally wound on the roll with its edges closely abutting, so that when in place on the roll the strip presents a smooth, unbroken surface through that part of the roll which comes in contact with the sheet. The watermarking design is conveniently formed by a stitching or embroidering machine constructed to form a suitably raised seam on the surface of the felt strip.—A. P.-C.

Pulp Screening in the Paper Industry. Ernest Lamort. Papier 27, 1253-1259 (Nov. 1924). A general discussion of the requirements of a good screening system, and of the care required and factors to be considered in designing and choosing a screening installation.—A. P.-C.

Riffler. A. J. Haug assignor to Improved Paper Machinery Co. U. S. pat. 1,492,795, May 6, 1924. The apparatus consists of two parallel separating devices having a common inlet, which consist essentially of large open troughs to either of which the stock can be admitted as required. The stock passes under a baffle plate and over a weir plate. Beyond the weir is a series of riffle plates inclined in the direction of flow of the stock and preferably arranged in a descending scale of height. The bottom of the trough is slightly inclined towards the side to facilitate cleaning. Means are provided for easily and quickly flushing the apparatus. When one side requires cleaning the stock is diverted into the other side, so that the operation of the apparatus is not interfered with.—A. P.-C.

Thickener for Pulp Tailings. A. J. Haug assignor to Improved Paper Machinery Co. U. S. pat. 1,493,535, May 13, 1924. The tailings are delivered to the inner surface of a slightly tapered rotating screen drum. A roller presses against the drum near the lower, inner, ascending portion. The roller is fulcrumed at a point outside the drum to permit a yieldable movement to and from the stock.—A. P.-C.

Pulp Refiner. S. Milne. Fr. pat. 574,086. The refiner consists essentially of a rotating disk, turning between two fixed disks, all of which are provided with knives or blades. The fixed disks are adjustable, either separately or together, towards or away from the rotating disk. The knives are placed radially on the disk, and some of them are partly cut off at the inlet and outlet openings. They are so disposed as to force the stock from the center towards the periphery on the inlet side, and from the periphery towards the center on the outlet side.—A. P.-C.

TECHNICAL SECTION, PAGE 109

Paper Mill Wire Cloth. "Dr. Buck." Pulp & Paper 23, 145-146 (Feb. 5. 1925). Practical indications on the selection and care of wire cloths in paper making.—A. P.-C.

New Principle in Pulp Screen Design. William Carter. Pulp & Paper International No., 215-217 (Jan. 1925). A description of the Bird outward-flow rotary pulp screen for screening sulphite and groundwood, with a discussion of its merits.—A. P.-C.

Refiners for Groundwood Tailings. C. K. Andrews. Paper Trade J. 80, No. 6, 150-153 (Feb. 5, 1924); Paper Mill 49, No. 6, 69-72 (Feb. 7, 1925). Results are given of a partial investagation of the various types of refiners used for refining groundwood tailings (Claflin, Berkshire, Valley Iron Works, Voith, Improved Paper Machinery Co., and Jordan), describing installations in various mills and the results obtained in commercial practice. The information obtained is not conclusive enough to warrant making a recommendation on any type of refiner or method of disposal of the tailings, and more information will be sought.—A. P.-C.

Cushions for Press Rolls. Fraser Jamieson. Pulp & Paper 2, 1901-1303 (Dec. 25, 1924). A brief description of the materials used in roll covers, methods incidental to the application of the rubber compositions to the metal center, and the condition of the finished cushion with respect to correct physical values.—A. P.-C.

Dandy Rolls. V. Bouyer. Papier 27, 1149-1154 (Oct. 1924). A detailed description of the construction and use of the different kinds of dandy rolls.—A. P.-C.

Rubber Rolls in the Paper Industry. Gustav Becker. Papierfabr. 22, 114-119 (June 17, 1924) A comprehensive treatise on the use of rubber rolls on the paper machine and auxiliary equipment.—J. L. P.

New Universal Grinding Machine for Paper Machine Rolls. L. Blum Maschinenbau. Wochbl. Papierfabr. 55, 2811-2812 (Nov. 1, 1924) Description of a patented roll grinding machine.—J. L. P.

Bearings for Drier Rolls. H. J. Wilson and W. Scott. Eng. pat. 224,617. A bearing for a drier roll comprises a half-step bearing supported by a block which is adjustable by a set screw, the half-step being formed with vertical faces that coact with like faces on the grease box. The drier roll trunnion is provided with a loose conical ring working in an annular groove in the bearing casting.—A. P.-C.

Rubber and Its Applications in the Paper Industry. J. Rollin. Papier 27, 1173-1177 (Oct. 1924). Description of the method of manufacture of various rubber articles used in the paper industry (paper machine aprons, deckle straps, press roll covering, belts, printing rolls) and of the care required to ensure their proper preservation.—A. P.-C.

Paper Machine Roll. A. Aldrich. U. S. pat. 1,521,742, Jan. 6, 1925. The rolls are made of aluminum and are covered with brass to protect them from undue wear.—A. P.-C.

Dandy Roll. T. J. Marshall & Co., Ltd. and R. E. Wedgwood. Eng. pat. 223,970. In order to permit of easy removal and replacement of dandy roll covers, the body of the roll consists of an inflatable cylinder, designed to be inflated by air and secured upon the roll spindle. It can be inflated and deflated through a valve placed in any convenient position. The cover is designed to be passed over the deflated body, which is then inflated to a sufficient degree to cause the cover to be held and retained in position, and to provide the resistance necessary in the use of the roll.—A. P.-C.

The Influence of Drier Felt Upon the Consumption of Steam. H. N. Hill. Pulp & Paper, International No. 218 (Jan. 1925); Paper 35, No. 17, 112 (Feb. 12, 1925). A discussion of the function of the drier felt in paper drying, and of the merits of asbestos drier felts.—A. P.-C.

How Do You Store Your Press Felts? Alfelco Facts; Pulp & Paper 23, 203 (Feb. 19, 1925). A plea for the use of felts in the order in which they are received at the paper mill, showing the inconvenience and trouble which can result otherwise.—A. P.-C.

Rough Edges on the Web Cause Unnecessary Difficulties in Saturating Dry Felt. Pulp & Paper 23, 147-148 (Feb. 5, 1925); A discussion of the disadvantages of rough edges and the advantages of smooth edges of rolls of felt for saturating, followed by an explanation of the action of the "score-cut" method of slitting showing how it gives the desired clean edges.—A. P.-C.

Rubber Rolls and Deckle Straps. R. B. Adams. Paper Mill 49, No. 3, 8, 10, 44 (Jan. 17, 1925). A description of their manufacture and discussion of their selection and performance.—A. P.-C.

Washing Paper Machine Felts. J. T. Ayers. Eng. pat. 225,456. A suction box is provided which engages the felt and is sealed by a watertight jointing. Washing fluids are directed through pipes against and through the felt, and when cleansed the felt passes over the suction boxes so as to draw off dirty water until the felt is dry. The washing liquor may consist of soapy water, cold water or other fluid likely to cleanse. After cleansing the felt, air may be driven through the pipes to facilitate drying.—A. P.-C.

Asbestos Felt and Cotton Felt. H. N. Hill. Paper 35, 241 (Nov. 27, 1924). A discussion of the advantages of asbestos felts, which are: great absorbency and less retention of moisture, resulting in rapid passing of the vapor through the felt without condensation, and consequent reduction in steam consumption at the driers; elimination of the felt driers; less wear; no putrefaction of the fiber; increased life; better quality of paper due to smoother surface of asbestos felts, and elimination of cockles due to the weight and pliability of asbestos felt.—A. P.-C.

Asbestos Drier Felts. Rudolph Hueckler. Paper Trade J. 80, No. 2, 46 (Jan. 8, 1925). Brief discussion of their merits as compared with cotton and woolen felts. (Compare preceding abstract.)—A. P.-C.

Study of the Failure of Cotton Drier Felts. E. D. Walen. Pulp & Paper International No., 127-129 (Jan. 1925); Paper Mill 49, No. 6, 78, 84 (Feb. 7, 1925). Results obtained indicate that accumulation or concentration of the sulphate radical (Presumably in the form of free sulphuric acid) is one of the chief factors in the failure of drier felts. Suitable treatment of the felt with a suitable neutralizing agent, e. g., a solution of sodium silicate and soluble oil in water, has a decided effect in lengthening the life of the felt.—A. P.-C.

Press Rolls and Water Removal. E. A. Rees. Pulp & Paper International No. 131-136 (Jan. 1925). An investigation into the effects of pressure, hardness of roll, thickness of rubber, and diameter of roll on nip width, of effects of presence of felt on nip widths and on pressure distribution in the nip, and of the distribution of the pressure across the nip width. The performance of the felt is also considered.—A. P.-C.

Drying Felts. Anon. Papierfabr. 22, 533-435 (Nov. 9, 1924). The advantages of using a drying felt made of asbestos are as follows: durability, no danger from heat or decay; uniform strength, same stretch as wool or cotton felts; soft surface, eliminating felt marking of the paper; very porous, thereby allowing the moisture to escape readily; retention of the heat; rapid drying; long life, outwears two or three other felts; less cost in proportion to advantages offered; and especially suitable for fast machines where rapid drying is essential.—J. L. P.

Doctors For Paper Machines. J. Bertrams & Sons. Eng. pat. 226,709. The doctor blade is composed essentially of a series of adjacent fingers, which enter into direct contact with the roll surface and are individually responsive to its irregularities. The fingers may either constitute springs in themselves, or to be urged by supplementary springs, or be associated with an envelope containing fluid under pressure.—A. P.-C.

Section of the
COST ASSOCIATION OF THE PAPER INDUSTRY
Affiliated with
THE AMERICAN PAPER AND PULP ASSOCIATION
Conducted by THOS. J. BURKE, C.A., Sec-Treas

Profit-Sharing as a Method of Compensation *

By Ralph E. Heilman, Dean of the School of Commerce, Northwestern University, Chicago, Ill.

A little group consisting of Mr. H. S. Dennison, Mr. Burritt, Mr. Kendall and Mr. Gay, then dean of the Harvard Graduate School of Business and myself some time ago formed a conclusion that the subject of profit-sharing, viewed as a method of industrial compensation, was a subject which justifies a careful impartial investigation and examination in the light of present day business practice and business methods. So we set out to conduct that investigation. The investigation extended somewhat over a period of two years and involved an investigation, so far as we know, of the most of the important profit-sharing plants and plans in the United States.

I am going to try to summarize, very briefly, the general result of that investigation and the conclusions at which we arrived jointly.

What Is Profit Sharing

At the outset let us ask the question: What is profit-sharing, anyway? So much publicity has been given to these various so-called profit-sharing plans and so many things are widely heralded and advertised as being profit-sharing which do not constitute profit-sharing in any real sense of the term, that we are justified in asking the question: What really is a profit-sharing plan?

We shall omit from consideration all bonus and charitable plans which masquerade under the guise of profit-sharing, and confine our discussion exclusively to those plans which deserve the term. What is profit-sharing? You will agree with me that profit-sharing viewed not as a method of social reform, but purely as a business proposition, refers to an agreement, contract or arrangement between an employing firm or corporation on the one hand and its employees (or certain of them) on the other, in accordance with which the firm contracts or obligates itself to share or permit its employees (or certain of them) to participate in the profits either of that business as a whole or in the profits of some department or unit of that business. But the participation must be upon a pre-determined, pre-arranged and definitely known basis. Otherwise we are dealing not with a system of industrial compensation but with some system of social reform.

Viewing profit-sharing as an agreement under which a predetermined and prearranged participation or distribution of profits is permitted, there are three general types of such plans: (1) General profit-sharing, in accordance with which employees are permitted to participate in general or on a pre-determined ratio in the profits of the business as a whole; (2) unit or departmental profit-sharing in which employees are permitted to share the profit yielded by a certain unit or department; and (3) individual profit-sharing. Such a firm as Sprague-Warner, for example, enters into an individual profit-sharing contract with its traveling salesmen, that they shall receive a percentage of all the net profit yielded on their business or arising from their territory.

Why should any firm or corporation contemplate the introduction of profit-sharing, keeping in mind that we are considering it purely as a method of compensation, as a business device? No firm or corporation will introduce the system unless it justifies itself by increased profits, unless in operation the plan in the long run will prove mutually profitable to the corporation and to those who participate in the plan. After all, employers have found that it is wiser to keep their charity and business entirely separate and distinct from each other. And the typical employee, likewise, does not seek charity at the hands of his employer. Therefore, if the plan cannot be justified purely as a business arrangement, it cannot be justified at all. So what purposes are there which may lead a firm or a corporation to decide to embark upon a profit-sharing program from the stand-point of business efficiency? I want to call your attention to certain guiding or controlling purposes in the minds of certain employers, firms and corporations, which under certain special and peculiar circumstances have led them to the introduction of profit-sharing as a method of industrial compensation.

Increasing Personal Efficiency

The first group of circumstances, under which profit-sharing has been frequently introduced, is for the purpose of increasing personal efficiency, the theory being that if the employees are given a stake in the business or a participation in the profits, there will be created an incentive for increased efficiency and effort, more speed and more output, which in the long run will pay for the plan. Is it true? Will profit-sharing achieve that result and is the introduction of profit-sharing to be recommended on the ground that it will provide a stimulus, an incentive, to men to do more work, to accomplish more results than otherwise would be the case? In my judgment, no, except under certain special circumstances. In other words, I do not believe profit-sharing as an incentive to increase personal effort is to be recommended in any case where it is possible to find any direct yard-stick for individual results. If it is possible to measure the individual results by a system of piece rate, by commission on sales, or by a bonus, such a system is preferable to general profit-sharing, because it is more closely tied up to the individual effort and the individual results.

But we are confronted with the fact that there is a great deal of work in the industrial world with regard to which it is impossible to find any simple yard-stick by which you can measure the individual results, and, therefore, employees must be paid a flat hour-

* From National Assn. of Cost Accountants Bulletin.

ly or day wage. Very frequently individuals are working in teams or groups, or the work is of such a character that the output is a joint product, and it is as impossible to measure one man's contribution, to segregate or distinguish that part of the product which should be definitely attributed to his effort as it is to unscramble an egg. In cases of that kind the customary method is to pay men a flat time rate with profit-sharing, on the ground that it would at least provide some incentive for increased effort and output. Examples of this type are the Proctor and Gamble plan, which applies to men on work most of which cannot be individually measured, and the plan of the Boston Consolidated Gas Company, which applies to a large group of men, excavators, repair men and others engaged in miscellaneous work where it has proven impossible to find any uniform yard stick to apply to their efforts. On the whole it may be said, viewed simply as a stimulus to increasing effort in the rank and file, if you can find any arrangement which will relate itself and tie itself up more closely with the measurable output or result of the individual, such an arrangement is vastly preferable to profit-sharing.

But we must face the fact that most of the work of the industrial world is not of that character; and frequently, supplementing the flat time wage with the addition of profit-sharing has served to provide some incentive over and above what would prevail on the flat time rate.

A Second Group of Special Circumstances

A second group of special circumstances, which sometimes lead to the introduction of profit-sharing, is for the purpose of preventing waste. In certain types of employment and certain industries, very valuable materials pass through employees' hands. Any carelessness or negligence on their part, or any increased effort or care, will be reflected in the amount of waste and loss which is incurred. I am thinking of one company, a large textile organization, which found that for years its loss sustained in the dye house was almost beyond belief, due to the fact that there was negligence and carelessness on the part of the employees to whom was entrusted that important responsibility. The company found that there was no way to measure the individual loss or waste for which the individual workman was responsible. With the introduction of profit-sharing plans, the employees had a feeling of responsibility in the financial success of the business and an incentive to greater care and economy than before. Very material and substantial reductions in the losses which previously took place in that department of the business resulted.

Sometimes you will find that under special circumstances, profit-sharing has been introduced to serve two purposes; (1) to secure additional personal effort, and (2) to bring about reduction in loss and waste. I am thinking of the A. W. Burritt Company, Bridgeport, Connecticut, which employs a novel and unique plan, known as the profit and loss sharing plan, in accordance with which the employees are permitted to share in the profit, but they also obligate themselves to share in the losses of the company. Each employee permits the company to retain a percent of his wages weekly for the accumulation of a fund over the fifty-two weeks of the year from which his share of the loss is to be charged at the end of the year in case any losses are sustained. That feature is unusual. *Ordinary* profit-sharing does not carry with it the obligation to participate in loss, if there is any.

Another Special Circumstance

There is another special circumstance, or group of conditions, that arises in many employments which has led to the introduction of profit-sharing as a system of compensation, namely, when men are engaged in work in which close, personal supervision is rendered impossible, due to the scattered or the dispersed location of the work. Not all the work in the industrial world is done under one roof or in one factory. If it were, supervision by foremen and others would be simple. But much work is done by men who are sent out from the central headquarters, here and there, and every where. Therefore, it is impossible to maintain that degree of close personal contact, supervision, and direction which would be the case under more immediate control. In certain cases where men must be sent out to work alone, where it is difficult or impossible to supervise them, profit-sharing has been successfully introduced as a substitute to provide them with an incentive to stay on the job and accomplish the best of which they are capable.

The World's Greatest Example

Maison Le Clair in Paris, in which profit-sharing has been in successful operation for over one hundred years, is the world's greatest example of this kind of a business. It is a great decorating business. Those who are employed in it are engaged in frescoing, interior decoration, exterior decoration and painting, and they have built up the largest business of its kind in France, with over a hundred men, sometimes over a thousand employed, on work in various parts of the country. In that type of work it is particularly difficult to maintain close personal supervision, and in the case of Maison Le Clair it has been found, during somewhat over a hundred years, that a carefully administered plan for profit-sharing applied to a carefully selected group of men has provided that incentive. I know of one or two large building organizations, having a large number of jobs in progress where the same plan is applied. And you may be interested to know that in one or two of the largest dairy, milk and ice companies in this country, employing a large number of drivers, each one of whom has his own route and each one working as a separate unit himself, the drivers are compensated on the basis of the profits of their respective routes. The theory of participation in the profits by men engaged on work that cannot be definitetly measured is that the privilege of participating in some fixed ratio, either in the profits of some unit of the business or of the entire business, will provide an incentive to effort.

Then again, many firms have introduced profit-sharing with the thought in mind that in this way they would undoubtedly stabilize their labor supply. In other words, it might prove an effective device which would more than pay for itself in reducing the labor turnover, in promoting permanency and stability on the part of the employed staff, and in encouraging employees to stay by the hope of participation in the profits, thus eliminating the waste that is involved in hiring and firing men over and over again. In this way the plan may pay for itself. Whether profit-sharing will prove an effective incentive to men to stay on the job rather than to seek new jobs elsewhere, depends upon whether or not profit-sharing is used as a device or subterfuge to nibble off their wages and pay them less than would otherwise be the case. I regret to say that in many cases profit-sharing has been used in precisely that way, and, of course, in such cases it will not succeed in accomplishing any other worth-while results; but if a scheme of profit-sharing is introduced upon the assumption that men will be paid the full going market rate of wages, and that, as a reward for permanency or length of service, they may be permitted to participate in something over the full, current market rate of wages, it may be successful in producing such results.

Investigation by Labor Department

Recently the United States Department of Labor conducted an investigation of all the important profit-sharing schemes in operation in the country, and while there was a great divergence of opinion among the employers and corporations as to whether or not profit-sharing makes men more efficient day by day, or whether it actually increases the output, there was one point on which there was practical unanimity among the employers and that was that it did very materially promote length, penmanence, and stability of service.

Of course, there are various types of plans. Many of these provide a graduated scale, that is, employees are permitted to participate in the profits in accordance with a progressive scale in direct ratio to years of service. In Sears-Roebuck they are not permitted to participate until they have served a long period of years—I think it is seven years. Suffice it to say, that profit-sharing if it represents something over and above the full going current rate of

wages, will probably succeed in promoting permanency of service. If it does not represent this, it will have very little effect in reducing the labor turn-over and promoting permanency and stability of service.

In my judgment the most important business purpose leading to the introduction of profit-sharing and its most important justification is that of promoting efficient management, among managerial executives, minor executives and supervisory employees. The curious thing is, that all the public discussion, which has been had, all the literature, articles and books which have been written on this subject deal with profit-sharing as a method of compensation for the rank and file of the wage earning group, whereas, as a matter of fact, the most profitable and promising field for the application of profit-sharing is among those who occupy managerial or minor executive positions and responsibilities of this character. Best results are obtained when it is introduced among employees, not at the bottom, but rather at the top and in the intermediate positions, for the purpose of stimulating more efficient management and for the purpose of providing an incentive to these employees to the fullest exercise of whatever capacity or ability nature has implanted within them. The major portion of the men occupying such positions are paid on a flat salary basis. True, it may be increased at the end of the year, but, nevertheless, it is a contractual arrangement which rests directly upon a flat salary—so much, no more, and no less—unless, of course, it is advanced.

Does Not Tend to Put a Man on His Toes

The fact is that the flat salary as a system of compensation for executives and managerial employees has precisely the same weakness that the flat hourly rate has for men in the rank and file of the wage-earning group when they are so employed. A flat salary does not tend to put a man on his toes; it does not tend to pull out of a man the very most that is in him. True, there may be the incentive of a hope of increase, and up to a certain point that does provide an incentive, but when the increase does not come or is not as large as the individual thinks it ought to be, when the increases are not as frequent as he would like to have them, or when he reaches the salary limit for that particular kind of a job, then there develops a certain lassitude, a certain "resting on the oars," a certain slowing down of the gait, very frequently a certain, although unconscious and ill-defined, lurking resentment, which very materially interferes with the individual achieving as much as he might achieve if he had only something which would put him on his toes and pull out the full exercise of everything that is in him. That is where profit-sharing provides an energizing influence and an incentive to this group of executives, minor executives and supervisory employees, on whose shoulders rests in a very large measure the success of any business enterprise. Recognizing the difficulties of a flat salary as a method of compensation for employees occupying important positions of this character, a very large number of firms and corporations have in recent years, quietly, unnoticed and unobserved, introduced profit-sharing, not for the rank and file, not for all their wage earners, but applied simply to certain selected groups in their own organization. To a great extent this form of profit-sharing is in operation today.

It is not the kind of profit-sharing which is written up, which gets publicity, or which appeals to the sentiments or altruistic instincts. But recognizing the difficulty of the flat salary form of compensation, and, yet, recognizing the fact that for many of those occupying such executive positions there is no yard-stick by which their contribution to the business can be measured, many firms have been introducing profit-sharing applied to the managerial group. In the retailing of merchandise, you will find that a goodly number of large department stores throughout the country have introduced profit-sharing of the departmental or unit type, in accordance with which the department head or buyer or whatever he may be called, is paid in addition to his salary, not a commission on his sales, but a percentage upon the profits yielded by his unit or by his department of the business. That is done in the Wanamaker stores and a good many others of that type.

System Adopted by Chain Stores

In large department stores the individual department manager or buyer, therefore, actually is participating in the profits, not of the entire business, but of that unit of the business for which he is responsible. The Woolworth stores, the Kresge stores and most of the other chain stores have introduced this principle either in its entirety or in modified form. You will find that many branch store managers in our great chain systems, today receive their compensation directly in the form of a percent of the profits, not of the entire chain but the merchandising operations for which they are responsible. Profit-sharing when applied to the merchandising operations of the managerial group, for those who are responsible for the formulating of the policy of merchandising success, has proven highly effective in promoting the best results of which these men are capable, because the profits of any unit or department are the only possible yard-sticks which reflect or which measure all of the responsibilities with which they are charged. These men—particularly is this true with regard to department managers in retail or department stores—are responsible for the buying, for the selection of the merchandise, for determining the mark-up and price, for the selection of sales people and employees, for their supervision and discharge and for the sales of their department. They are, in a sense, individual merchants, and, therefore, to pay them a percent of the sales would in no sense measure their efficiency with regard to the discharge of these other functions. But paying them a percent of the profits reflects their efficiency in the discharge of all these numerous and diverse functions with which they are charged.

Being Reorganized in Manufacturing

The same principle is being recognized today in the manufacturing field. Especially during the last five years a large number of manufacturing concerns have introduced profit-sharing as applied to a certain selected group. In many cases, they take all who are receiving a salary of more than a certain amount. I do not think that is a very satisfactory method. It is in operation with the Dennison Company. All who receive in excess of $2,500 a year are permitted to share in the profits. The American Rolling Mills Company begins at $2,000. The Studebaker Corporation has a very carefully worked out profit-sharing plan which applies only to its executive and upper group of employees. All the members of its staff occupying positions of sufficient importance are classified into four groups, depending on the responsibility of the positions which they occupy; and their participation in the profits, in turn, depends upon the group to which they are classified or assigned. The Studebaker Company says its plan includes "all those employees whose responsibilities include the spending of the company's money, handling its property, making commitments for its account, or the employment and the supervision of its employees." The Wayne Knitting Company, and a large list of other companies, whose business is limited chiefly to manufacturing have introduced a profit-sharing plan, but have confined its application to those occupying positions of managerial importance.

Another very important reason why profit-sharing has been introduced in the manufacturing field, particularly among managerial employees, is for the purpose of promoting co-operation among those occupying the executive positions of major importance in the manufacturing business. Now, co-operation sounds like something altruistic, indistinct and indefinite, but it is something very real. It makes the difference between a successful and an unsuccessful business. You know that in an organization where the various department heads and those occupying the positions of major importance do not pull together, but are always pulling apart, where each man is always endeavoring to pass the buck to others, and causing other department heads to make an unfavorable showing, the business cannot permanently succeed. But the business, particularly the manufacturing business, where the various department heads and executives and minor executives are pulling together, characterized by a spirit of team-work, a real esprit d'corps, trying not to put each other in an unfavorable light, but

trying to promote the business as a whole, is built on a much more permanent and successful foundation. Co-operation is certainly necessary in the manufacturing business between the *cost* and the *production* departments, the *credit* department, and the *sales* department. That is another reason why profit-sharing, which would provide these men who are responsible for the conduct of the various departments with an incentive, with an inducement, with a stake to pull together to promote the interest of the business as a whole, to reduce its cost, to stop its leaks, and to enlarge its sales and to promote its long-run interest, has proven effective.

The Difference in Manufacturing Fields

I know that you will be interested in this general statement: Where managerial profit-sharing has been introduced in merchandising—in large retail stores, department stores and chain stores—you will always find that it is unit or departmental profit-sharing, but where it is introduced in a manufacturing business, you will always find it is the general profit-sharing. In other words, in the merchandising business, if the executive or department heads are permitted to share, ordinarily, they share only in the profits yielded by their departments or units, but, in the manufacturing business and all others, so far as I know, the executives participate in the profits of the business as a whole. In these chain stores, department stores, retail and merchandising establishments, the various departments can be treated as separate profit producing units. Each of them is in a sense a separate store, each can be charged with its own expense and credited with its own profits. But in a manufacturing business, which is engaged in making some one standard article, and where the various production departments in the business are simply engaged in putting the raw material through the various stages of manufacture and production until it emerges as a finished product, it is not possible under any system of accounting, so far as I know, to treat these separate departments as separate profit producing units.

Conclusion of the Group of Five

I am going to summarize this whole discussion by trying to state as simply as I can the conclusion at which our group of five arrived. Each of the five approached this from a somewhat different point of view. We had somewhat different preconceived ideas with regard to the scope and applicability of profit-sharing, but as a result of our inquiry we all agreed unanimously upon this conclusion: that eliminating all social and altruistic considerations, and viewing profit-sharing simply as a business arrangement, a method of compensation which must justify itself, and which must pay its own way, profit-sharing is most effective only with certain groups, namely, with high groups and with small groups. Let me re-state that in a somewhat more accurate manner: Viewing profit-sharing purely as an efficiency device, its effectiveness is in direct ratio to the rank of the participants, and it is in inverse ratio to the size or the number of the participating group. Let us analyze that statement just a moment. We say that the effectiveness of profit-sharing as an incentive, as a motive, as a stimulus for men, is in direct ratio to the responsibility, to the character of the job the man occupies. The higher the job, and the greater the responsibility, the more effective profit-sharing will be.

In the first place, it is perfectly evident that in the case of men who are occupying positions of this character, their opportunity to exercise an important influence is very much greater than is that of the man who holds a job in the rank and file. The purchasing agent, by one shrewd purchase in the front office, in half an hour can exercise a more important influence on the year's total production than can a mechanic out in the shop in a year, regardless of how faithful and efficient he may be in the performance of his duties. In other words, the men who occupy the more important positions exercise a more important influence upon profit, and, therefore, it follows, that if you can get any additional incentive for them, it will be more profitable to do so. In the second place, those who occupy the more important responsibilities can see the relationship between their effort and profit very much more easily than the obscure employee down in the rank and file. It is a perfectly easy thing for the salesmanager to see that if he can put on a new type of selling campaign successfully, or for the export manager to see that if he can find a new foreign market for the product, there will be a tremendous influence exercised on the year's profits. But it is a very difficult thing to make the elevator operator or janitor understand that by any increased care on his part he will exercise any tremendously large influence on the year's profit, because the fact is he will not and he cannot.

Those in Important Positions

Then, again, for those who occupy these more important positions, profit-sharing is likely to prove much more successful, because they are much more familiar with business vicissitudes, fluctuations and uncertainties than are the employees down in the rank and file. That is a tremendously important consideration, because if you have a profit-sharing scheme which includes all the rank and file, your plan may go along beautifully so long as you are earning good profits, but just as soon as the company strikes a lean year and the profits available for distribution are small or non-existent, antagonism and suspicion are aroused. "Why, we worked just as hard this year as last. Where are the profits?" Whereas, in the case of managerial employees, if the company strikes a lean year, instead of undermining their confidence in the plan, it only quickens and deepens their sense of partnership and confederation, because they are familiar with the conditions which have brought about that unfortunate result. Many profit-sharing schemes for the rank and file have worked successfully for a few years, and then have had to be abandoned because the employees' suspicion and antagonism were aroused when the company struck a bad year.

But more important than any of these considerations is the fact that in the case of men occupying the upper positions of more importance, it is more difficult, generally speaking, to find any yard-stick by which you can measure their individual results. How will you find a system for these men occupying the more important positions by which you can definitely distinguish the contribution which that individual has made to the success of the business, or pay him a bonus accordingly? It can be done in some cases. The sales manager may be paid a bonus upon sales, but what yard-stick would you find, for example, for the controller, the auditor, the chief cost accountant, the employment manager, the man in charge of public relations, the publicity man, the advertising department? It simply cannot be done, and in the absence of any such individual yard-stick, and as a supplement to strengthen and reinforce the flat salary arrangement, profit-sharing frequently proves highly effective in motivating and energizing this group upon whose effort so largely depends the success of the business. It is for these reasons that I say profit-sharing is in direct ratio to the rank of the participants.

Large Group of Employees

I should not be misunderstood as saying that profit-sharing will never work with a large group of employees. It may. It is in operation in some such establishments, but I do maintain that if it is to be applied to the rank and file of wage-earners, it will work very much better in a comparatively small business establishment than it will in a large establishment where thousands of such employees of the rank and file are permitted to participate. Why? What is the ratio of the effectiveness of profit-sharing as a method for compensation on the size of the participating group? It is this. The greater the number, the larger the number of employees who are to participate in the scheme or plan, the less is the opportunity for the management to educate the employees with regard to the essentials of profit-sharing. If you are going to have a plan of profit-sharing for the rank and file of labor, it will not prove self-operating. Nothing does. That means you must have a constant and continuous campaign for education among all these employees who participate in order to point out to them all the time just how they can affect profits, just what they can do by increased care or economy of exertion to help increase the company's profit for the year.

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This also is true. The larger the number of the rank and file of employees who are participating (other things being equal), the less is the influence which any one of them actually does exert upon profits. If you have a thousand or ten thousand employees, the influence that any one employee in one department can exercise upon the year's profits is relatively negligible. The larger the business, even if he does exert himself, the greater is the possibility that any increased care or saving, economy or efficiency on his part will be off-set by the loafing on the job of some one else in some other department in the business whom he has never seen or whom he does not know. You cannot get the same degree of personal enthusiasm out of a group of ten thousand wage-earning employees with regard to a profit-sharing scheme that you can where there are a hundred or two hundred. It is impossible to imagine that in the Eastman Kodak Company, which has a profit-sharing plan involving eight thousand employees, whatever its other merits may be, it would be possible to get the same degree of education and enthusiasm with regard to personal participation as is obtained in the A. W. Burritt Company, where about two hundred employees of the rank and file participate.

Direct Ratio to the Rank

Profit-sharing is in direct ratio to the rank; inverse ratio to the size. I think that this conclusion, theoretical though it may seem to be, is actually borne out and verified by the history of profit-sharing experience, because so far as our investigation carried us, we found, on analysis of the actual experience of American firms and corporations dealing with profit-sharing plans, that in practically all of those companies which had introduced profit-sharing, had experimented with it and later had abandoned it, the schemes were of the type which included the wage earners alone, the rank and file alone, or which included a very large number of the rank and file. We also found that out of those firms which had experimented with profit-sharing among the managerial and executive group, practically none had abandoned it. Many of them have changed the plan, but practically all of them adhere to the principle. On the other hand, many firms which had introduced profit-sharing for all employees from the top down, had abandoned profit-sharing as regards the rank and file, but still retained it for the executive employees and those occupying the positions of managerial importance. So I think that experience verified and bears out the first conclusion.

Most Successful in Small Plants

We also found that where profit-sharing had been employed for the rank and file of the employees and where it has had a successful operation over a goodly number of years—and there are some such plants—practically all those plants are relatively small. Some of the best known profit-sharing experiments, where profit-sharing has been in operation for many years among the rank and file, occur in small plants. The Burritt Company has 125 employees, another has 110, another 175, and the Simplex Wire Company—that is one of the experiments which is widely referred to by President Elliott, in his advocacy of profit-sharing as being a universal panacea—has eighty. Another plant frequently referred to in messages of President Elliott, in which he regards profit-sharing as the complete solution of our industrial problems, employs 125 men; C. C. Meeker, 150; another, 200; the Minneapolis Bedding Company, 200; New Haven Gas Company, 100. So that the general experience seems to be, not that profit-sharing will never succeed with the rank and file, but that when introduced as an incentive to greater effort, increased energy and larger output, where it has proven successful for a long period of years the plant has been a comparatively small one. Of course the plan may succeed for some of these other purposes, as for example with Procter and Gamble, where there are thousands of employees, and the Boston Consolidated Gas Company, where it is introduced to promote stability and permanency of labor supply.

Place in the Industrial Scheme

Viewed purely as a method of industrial compensation, profit-sharing has its place in the industrial scheme of things. It is not a universal place; it is not to be recommended under any and all circumstances. It simply takes its place side by side with a good many other systems of industrial compensation, each one of which is to be used under those circumstances which are most designed to secure its success. Profit-sharing has a very real place, a place which in my judgment has been somewhat exaggerated with regard to the rank and file and which has been largely overlooked and not sufficiently emphasized with respect to those employees occupying the more important positions. Therefore, I am convinced that profit-sharing, while it is not a universal panacea for the solution of all those troublesome problems that arise by virtue of the fact that one man must be employer and one employed under our present economic system, has its place. I believe that we are, therefore, destined to see in the future a wider and certainly a much more discriminating use of profit-sharing as a system of industrial compensation than we have seen in the past.

A. B. C. Drew Speaks on Paper at Providence

PROVIDENCE, R. I., September 4, 1925.—The important place that paper is coming to occupy in every phase of life was emphasized in a talk by A. B. C. Drew, of the paper department of the Pairpoint Corporation of New Bedford, speaking at the luncheon meeting of the Lions, Exchange and Civitan Clubs at the Biltmore Hotel at noon yesterday. Frank A. Page presided.

Showing samples of wood, wood pulp and the varied products, Mr. Drew opened up a new vista in the minds of his hearers as to the present day use and the future possibilities of wood paper. "A Scrap of Paper" was the subject of his talk, and he began by tracing a brief history from the earliest date of which there is record down to the present time.

After enumerating the long list of usages to which wood pulp and paper are now put he explained the diversified requirements of the various industries as to the particular character of paper necessary for each. He then spoke of the future of paper pulp for artificial purposes, illustrating by samples the different grades of "cotton" and "silk" fabrics that are now being manufactured and directed attention to the rugs, carpets and clothings now coming into use.

German Paper Exports Lower

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 9, 1925.—Preliminary statistics published by the German Government for the period ended June 30, show the volume of paper and paper products exported since the beginning of the year to be approximately 20 per cent less than those during the first six months of last year, according to word received by the Paper Division of the Department of Commerce.

The chief losses occurred in printing and writing papers, which dropped off 38 per cent and 45 per cent respectively, and in wrapping paper, which fell 13 per cent. Exports of a number of the finer grades of paper and of most clases of board were above those of the first half of last year. Among paper manufacturers, exports of bags, boxes, and cartons, paperteries and blank books were smaller than in 1924, while exports of other paper and board manufactures in the aggregate show an increase of 13 per cent.

Bristol Paper Box Co. Erects New Building

BRISTOL, Va., September 8, 1925.—A new addition to the many structures that have been erected on West State Street is the new home of the Bristol Paper Box Company, which is being erected on the lot adjoining the new home of the Bristol Baking Company.

The structure will be a one-story brick building, and will be modern in every respect including lighting and ventilation. Work was started on the foundation several days ago and it is expected that the building will be completed and ready for occupancy by the first of November. The building is being erected by D. W. Wagner, prominent contractor of Bristol. Construction work is under his supervision. The cost of the structure will be approximately $10,000.

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Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 5, 1925

SUMMARY

News print	158 bls., 848 rolls
Wrapping paper	178 bls., 10 cs.
Printing paper	96 rolls, 335 cs.
Wall paper	13 bls., 1 cs.
Cigarette paper	25 cs.
Surface coated paper	18 cs.
Writing paper	6 cs.
Filter paper	55 bls., 10 cs.
Paper tubes	19 cs.
Silk paper	10 cs.
Envelopes and paper	36 bls., 10 cs.
Envelopes and Paper	36 bls., 10 cs.
Cardboard	64 bls.
Gold-coated paper	1 cs.
Photo paper	2 cs.
Drawing paper	40 cs.
Foolscap paper	11 bls.
Baryta-coated paper	71 cs.
Draughting paper	1 cs.
Note paper	2 cs.
Miscellaneous	109 cs.

CIGARETTE PAPER

The Surbourg Co., Aquitania, Havre, 25 cs.

WALL PAPER

F. J. Emmerich Co., Thuringia, Hamburg, 3 bls.
F. J. Emmerich Co., Corinthia, Liverpool, 5 bls.
W. H. S. Lloyd & Co., Corinthia, Livrepool, 5 cs.
Hudson Forwarding & Shipping Co., Aquitania, Havre, 1 cs.

NEWS PRINT

J. P. Heffernan Paper Co., Martha Washington, Trieste, 158 bls.
Irving Bank, Columbia Trust Co., Andonia Hamburg, 707 rolls.
Chemical National Bank, Andonia, Hamburg, 141 rolls.

PRINTING PAPER

Keuffel & Esser Co., Thuringia, Hamburg, 96 rolls.
Old Master Pulp & Paper Mo., Martha Washington, Trieste, 30 cs.
H. Reeve Angel & Co., Inc., G. Washington, Bremen, 279 cs.
E. Dietzgen & Co., Reliance, Hamburg, 6 cs.
Titan Shipping Co., Aquitania, Havre, 20 cs.

WRAPPING PAPER

Birn & Wachenheim, Thuringia, Hamburg, 10 cs.
Chemical National Bank, Thuringia, Hamburg, 178 bls.

FOOLSCAP

Old Master Pulp & Paper Co., M. Washington, Trieste, 11 bls.

CARDBOARD

Old Master Pulp & Paper Co., M. Washington, Triese, 64 bls.

PHOTO PAPER

J. J. Gavin, Celtic, Liverpool, 2 cs.

GOLD COATED PAPER

J. Murray Hill, Columbus, Bremen, 1 cs.

BARYTA COATED PAPER

Globe Shipping Co., Columbus, Bremen, 71 cs.

SURFACE COATED PAPER

Whiting & Patterson Co., Inc., Thuringia, Hamburg, 9 cs.
Phoenix Shipping Co., Thuringia, Hamburg 9 cs.

DRAWING PAPER

Keuffel & Esser, Thuringia, Hamburg, 40 cs.

DECALCOMANIA PAPER

Phoenix Shipping Co., Columbus, Bremen, 1 cs.

SILK PAPER

London Feather Co., Columbus, Bremen, 10 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Amermican Trades, London, 10 cs.
J. Manheimer, Homeric, Bordeaux, 55 bls.

DRAUGHTING PAPER

North American Lace Co., Corinthia, Liverpool, 1 cs.

PAPER TUBES

H. de Maguin & Co., Paris, Havre, 19 cs.

WRITING PAPER

A. Nim & Co., Aquitania, Havre, 2 cs.
J. W. Hampton, Jr. & Co., Aquitania, Havre, 1 cs.
J. W. Hampten, Jr. & Co., Andania, Hamburg, pool, 36 bls.

LETTER PAPER

R. F. Downing & Co., Aquitania, Havre, 2 cs.

PAPER & ENVELOPES

Independent Forwarding Co., Corinthia, Liverpool6 36 bls.
National City Bank, M. Washington, Trieste, 10 cs.

PAPER

Japan Paper Co., Paris, Havre, 11 cs.
Coenca Morrison Co., Paris, Havre, 6 cs.
Standard Products Corp., Paris, Havre, 58 cs.
O. Schleist & Schall Co., Thuringia, Hamburg, 9 cs.
P. H. Petry & Co., Thuringia, Hamburg, 11 cs.
P. H. Petry & Co., Reliance, Hamburg, 4 cs.

RAGS, BAGGINGS, ETC.

Mutnick Bros., Celtic, Liverpool, 25 bls. rags.
National City Bank, Celtic, Liverpool, 41 bls. bagging.
E. Butterworth & Co., Celtic, Liverpool, 166 bls. rags.
Guarantee Trust Co., Fairfield City, Alexandria, 103 bls. rags.
Mechanics & Metals National Bank, Fairfield City, Alexandria, 242 bls. rags.
Castle & Onerton, Inc., Idaho, Antwerp, 41 bls. rags.
B. D. Kaplan, Corinthia, Liverpool, 53 bls. rags.
A. W. Fenton, Inc., Andania, Hamburg, 103 bls. rags.
Chemical National Bank, by same, 46 bls. rags.
New York Trust Co., by same, 85 bls. rags.
Brown Bros. & Co., Hektor, Barcelona, 167 bls. rags.
Equitable Trust Co., by same, 78 bls. rags.
W. Mayer, Thuringia, Hamburg, 132 bls. rags.
Irving Bank Columbia Trust Co., by same, 41 bls. rags.
Anglo South American Trust Co., by same, 78 bls. rags.
Ladenburg, Thalman & Co., by same, 11 bls. rags.
A. W. Fenton, Inc., Conehatta, Manchester, 87 bls. rags.
Amsinck Sonne & Co., by same., 30 bls. Newcuttings.
The Barrett Co., by same, 55 bls. Newcuttings
Darmstadt Scott & Co., by same, 49 Newcuttings.
L. H. Abenheimer, by same, 294 bls. paperstock.
Castle & Onerton, Inc., by same, 54 bls. rags.
Kidder Peabody Accep. Corp., by same, 46 bls. rags.
A. W. Fenton, Inc., Westerner, Antwerp, 37 bls. rags.
Asfurst & Co., by same, 50 bls.
E. J. Keller Co., Inc., by same, 119 bls. rags.
Mutnick Bros., by same, 36 bls. rags.
National Bank of Commerce, Asia, Marseilles, 475 bls. rags.
National Bank of Commerce, Asia, Constantinople, 212 bls. rags.
A. W. Fenton, Inc., Geo. Washington, Bremen, 89 bls rags.
International Accep. Bank, by same, 14 bls. rags.
New York Trust Co., by same, 50 bls. rags.
Chemical National Bank, by same, 83 bls. rags.
Natonal City Bank, by same, 57 bls. rags.
International Accep. Bank, Patagonia, Antwerp, 91 bls. bagging.
A. W. Fenton, Inc., Reliance, Hamburg, 56 bls. bagging.

OLD ROPE

Brown Bros. & Co., Idaho, by same, 45 bales.
Brown Bros. & Co., Idaho,, by same, 45 bales.
Brown Bros. & Co., Thuringia, Hamburg 27 coils.

CASEIN

Brown Bros. & Co., Pan America, Buenos Aires, 250 bags.
The Kalbfleisch Corp, by same, 667 bags.

WOODPULP

Tidewater Papermills Co., Bornholm, Liverpool, N. S. 12,933 bales.

WOOD PULP BOARDS

Lagerloef Trading Co., G. Washington, Bremen, 220 bls., 31 tins.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 5, 1925

Philadelphia National Bank, Trolleholm, Sweden, 957 rolls Newsprint.
National City Bank, by same, 300 bls. sulphite pulp.
Scandinavian Pulp Agency, Inc., by same, 1175 bls. dry pulp.
Brown Bros. & Co., Maryland, London, 19 bls. rags.
Chemical National Bank, by same, 337 bls. rags.
A. Hurst & Co., by same, 185 bls. rags.
Old Colony Trust Co., Hoosac, Glasgow, 42 bls. rags.
Elmwood Mill Co., Hoosac, Liverpool, 40 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 5, 1925

A. W. Fenton, Inc., Westerner, Antwerp, 209 bls. rags.
Certainteed Products Co., by same, 402 bls. rags.
Brown Bros. & Co., by same, 482 bls. rags.

HAMPTON ROADS IMPORTS

WEEK ENDING SEPTEMBER 5, 1925

Maurice Qineara Co., Westerner, Rotterdam, 112 bls. gunny bagging.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 5, 1925

Boston Herald, Minneastern, St. John's N. F., rolls newsprint.
International Purchasing Co., Northland, Yarmouth, N. S., 49 bls. old rope.
Baring Bros. & Co., Median, Manchester, 123 bls. rags.
1st National Bank of Boston, by same, 100 bls. cotton waste.
New England Waste Co., by same. 3 bls. rags.
Payne & Stillman, Inc., Median, Liverpool, 14 bls. rags.
National Shawnutt Bank, by same, 11 bls. rags.
H. E. Harris & Co., by same, 21 bls. waste paper.
J. Cohen Josephy, by same, 2 bls. rags.

(Continued on page 70)

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Pittsburgh, Pa.

Imports of Paper and Paper Stock

(*Continued from page 68*)

Johanson, Wales & Sparre, Inc., Bird City, Hernosand, 4200 bls. sulphate pulp.
Johanson, Wales & Sparre, Inc., Bird City, Sundsvall, 900 bls. sulphite pulp.
Buckley Dunton & Co., Bird City, Sundsvall, 1250 bls. chemical pulp.
Scandinavian Pulp Agency, Inc., by same, 1250 bls. sulphate pulp.

British Paper Trade Increases in 1924

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 1, 1925.—The British Trade in paper and paper products during 1924 was substantially greater than in the two preceding years, imports having been 11 per cent and exports 9 per cent greater in volume than in 1923 and 27 per cent and 94 per cent, respectively when the comparison is made with 1922, according to Alfred Nutting, the American Consulate General at London in a report to the Paper Division of the Department of Commerce. These increases, however, are not reflected in the value of the shipments, owing to the heavy decline in both import and export prices during the past two years.

Discussing the trade in detail the report continues:

British exports of printing paper were about 10,000 tons higher last year than in 1923 and well over 50 per cent in excess of shipments in 1922. Exports of writing paper, on the other hand, were somewhat under those of the preceding year, but were approximately 30 per cent higher than the 1922 shipments. The growth in both printing and writing paper exports during the past three years has been mainly attributable to larger purchases by British possessions, and particularly Australia which took 60 per cent of the printing paper and 38 per cent of the writing paper sold abroad last year. Next in importance to Australia were British India and New Zealand each of which took 7 per cent of the total printing paper shipments and 19 per cent and 15 per cent respectively of the exports of writing paper. Only 16 per cent of the total exports of these classes were destined to countries outside of the British Empire.

Exports of Paper and Board Generally Higher

Exports of other classes of paper have generally steadily increased during the past three years. Packing and wrapping paper shipments last year more than doubled in quantity compared with 1922 and were 20 per cent greater than in 1923. Similar increases are noticeable in exports of coated papers and wall papers. Relatively the largest increases, however, occurred in exports of paper bags and boxes and cartons, which were 26 per cent and 38 per cent respectively higher than in 1923.

Printing and Writing Papers in Larger Quantities

British imports of printing and writing papers were heavier in 1924 than in either of the two preceding years. An outstanding feature in this class of imports is the growth in receipts from Germany, and to a less extent Sweden and Finland, during the past two years, and the large decrease in receipts from Canada and the United States during the same priod. Newfoundland and Labrador, which furnished 27 per cent, and Finland, which furnished 25 per cent, were the chief suppliers of these papers, the remaining imports coming mainly from Sweden and Norway, which supplied 17 and 13 per cent respectively, and Germany, which supplied 7 per cent of the total receipts. Imports from Canada and the United States, while above those of the preceding year, were greatly below the 1922 shipments.

Sweden Chief Supplier of Wrapping Papers

Imports of packing and wrapping papers (including tissue paper) have increased approximately 50 per cent since 1922, German and Swedish exporters benefitting chiefly from these increased purchases. The chief sources of supply during 1924, in the order of their importance were: Sweden, 38 per cent; Germany, 24 per cent; Norway, 16 per cent; and Finland, 10 per cent.

Miscellaneous Paper and Board

The chief increases in 1924 were in imports of coated papers and of boards, imports of the former class representing an increase of 28 per cent and of the latter approximately 20 per cent over the preceding year. Approximately one-half of the receipts of coated papers were from Germany, Belgium and France being the chief competitors, with a small amount from the United States. The bulk of the strawboard importations are from the Netherlands.

Imports of Paper-making Materials

British imports of wood pulp and other paper-making materials, with the exception of dry mechanical groundwood were generally higher during 1924 than in the preceding year. Imports of chemical pulp increased approximately 10 per cent. Sweden was the chief supplier of unbleached chemical pulp, having furnished 57 per cent of the total receipts of this variety, and together with Norway also supplied 65 per cent of the unbleached chemical pulp. Finland ranked third as a source for bleached chemical pulp and second for unbleached chemical pulp, having supplied 22 per cent of the total receipts of the latter in comparison with only 14 per cent from Norway. One-half of the imports of mechanical pulp, which also increased approximately 10 per cent, were from Norway, the remainder coming principally from Sweden, which contributed 29 per cent and Canada which contributed 16 per cent. Imports of esparto and other vegetable fibers and waste were principally from Algeria and Spain.

Upward Trend During First Half of 1925

The British trade in paper and allied products has continued to expand during the first half of the current year. The aggregate of exports advanced to 111,935 tons contrasted with 109,834 tons in 1924, while imports of paper and board, comparing the same periods, increased from 312,985 tons to 343,820 tons and those of paper making materials from 568,606 tons to 656,155 tons. The outstanding features in the paper import trade are the greatly increased receipts of printing and writing papers from Norway and from New Foundland and Labrador, accompanied by a decline in importations of these classes from Sweden, Finland, and Germany. Australia continues to be the chief purchaser of printing and writing papers from British exporters, having taken 66 per cent of the former and forty per cent of the latter shipments during this period. British paper exporters express some concern over the rumor that the manufacture of pulp and paper on a large scale is to be undertaken by an Australian company. The latter has announced that not only wood but other raw materials such as limestone, sulphur ores, etc., are obtainable in the vicinity of the proposed plant, and that it will be in a position to produce paper on a commercial scale within a short time, provided it can secure protection from the Commonwealth Government. The company's programme comprehends supplying eventually the entire demand for newsprint in Australia.

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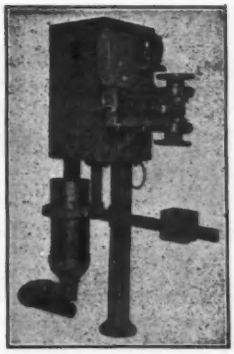

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 9, 1925.

Now that the vacation season is gradually drawing to a close, there are unmistakable signs of improvement in the paper market. Incidentally, it is very pleasing to be able to record that the summer business has turned out much better than the trading transacted in the corresponding period of last year. July and August business, in particular, was much better than the most optimistic member of the paper trade had anticipated. At the present writing, a steadily increasing demand for paper is being experienced and, as a result, while prices so far have not changed to any extent, they are firmer than for some time. All signs undoubtedly point to continued active trading for the balance of the year and many close observers of the market confidently predict a general improvement in practically every grade over the corresponding period in 1924. While consumers have, for some time, been over-cautious, the approach of the Christmas and New Year holiday season is compelling them to open out in order to take care of their future requirements. Sales organizations of leading paper houses, which, during the summer months, invariably slacken their efforts, are now getting into their stride for a strenuous and intensive autumn campaign with every prospect of success, and every man will soon be keyed up to high tension.

News print has been in satisfactory demand during the vacation period, due to the tremendous efforts of the circulation departments of the leading newspapers to sustain circulation by means of contests, prize offers, etc. With the return of numerous readers from the beaches and the mountain resorts, and the approach of the busiest shopping season, the consumption of news print will accellerate its pace from now until the end of the year a healthy demand may be expected.

Box board continues to improve. Fine papers are also doing better, and the printers are coming through with numerous small orders. Coarse papers are in slightly improved demand and seasonable lines are in satisfactory condition following an exceptionally good summer trade.

Mechanical Pulp

The ground wood market continues steady, while the demand is all that can reasonably be expected at this time of the year, pulp moving freely into the consuming channels. Most of the buying continues to be on a contract basis but spot buying is gradually broadening out. Prices are inclined to rise and the outlook generally is reassuring.

Chemical Pulp

Chemical pulp is now active and the trend of prices is upward. An increasing number of inquiries are coming in and the market appears to be ready for a considerable spurt. Stock is moving in a satisfactory manner and some consumers are not only buying for their immediate needs, but for a considerable period ahead.

Old Rope and Bagging

The demand for both old rope and bagging is little changed, although there is a very slight increase in the number of orders received. Prices remain almost stationary and trading is not expected to become much more active for some time.

Rags

While the rag market is rather quiet at present, an improved demand, especially for domestic rags, is anticipated in the near future. Low grades are beginning to attract more attention and the better grades also show some signs of increased liveliness. Many close observers express the opinion that the market is about due for a change. Roofing rags, after a somewhat quiet period, are in better demand and further expansion is expected in the late fall.

Waste Paper

No substantial changes have been reported in paper stock. Prices are practically unchanged and very little revision is expected until trading becomes more active. It is reported that the board mills are inclined to buy more liberally, however, and a genuine improvement may soon come to pass.

Twine

The demand for twine is increasing imperceptibly, most of the business being in small orders for immediate requirements. No change is reported in the price schedule and trading will probably go along the same way until the end ot September or the beginning of October.

German Pulp and Paper Production Lower

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 9, 1925.—With the exception of mechanical pulp and of news print paper, German pulp and paper production during the second quarter of the current year was under that of the same period in 1924. Production by mills of the German pulp and paper association during the first half of 1925 is reported at 354,136 metric tons (metric tons = 2,205 pounds) of chemical pulp, 448,283 tons of mechanical pulp, 213,126 tons of news print, and 617,472 tons of other classes of paper. In comparison with the same period in 1923 these amounts represent an increase in production of 30 per cent for mechanical pulp, 33 per cent for news print paper, 36 per cent for chemical pulp, and 20 per cent for other classes of paper. Domestic requirements continue to absorb the greater part of pulp and paper produced, exports during the first half of the year taking only 21 per cent of the chemical pulp, 20 per cent of the news print, and 18 per cent of the aggregate amount of other paper manufactured.

Pulp Exports From Helsingfors

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 9, 1925.—This year's output of chemical and mechanical pulp has been disposed of and advance sales for 1926 delivery have been entered, according to a report from Assistant Trade Commissioner E. A. Kekich, Helsingfors. Inquiries are also being received in regard to the next year's newsprint. Pulp exports during the month of July amounted to 34,000 tons and paper exports to 19,000 tons.

Powell River Company's Development

A dispatch from Vancouver, B. C., says: Production of paper by the Powell River Company will be increased 80 per cent. by the completion of the $5,000,000 development program now under way, M. J. Scanlan, of Minneapolis, a director of the company, announced here. At present the plant is turning out about 75,000 tons a year.

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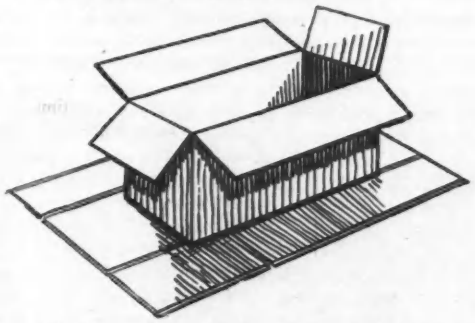

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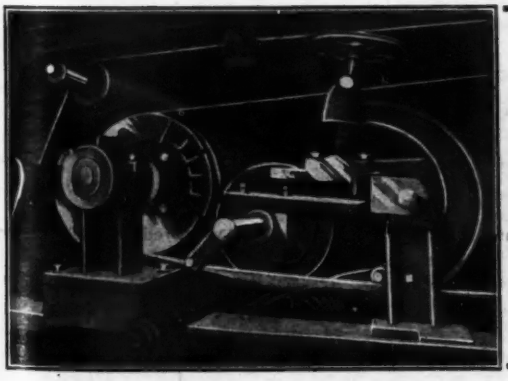

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 9, 1925.

September business in the chemical market is getting under way in an acceptable manner. The improvement which has occurred has not in any way been radical but it has been very general, being well distributed and including within its reach practically all the commodities. The chemical men declare they would prefer to have it that way for radical advances are too apt to be followed by serious reactions. Last year at about this time there was a notable instance of this for September business started to gain in an appreciable way only to suffer a reaction after a short period. Where the gain is slow it is apt to continue longer and to keep the market in a better tone than usually comes when a great flurry of business develops with little warning. As it is, the market today can be spoken of as exhibiting a thoroughly healthy tone. Stock is moving in a steady, consistent manner. Contract buying is particularly good, consumers in many instances having been exceeding their quotas for some little time past while it is a notable exception where a consumer shrinks from his contract withdrawals. There is still a dearth in spot buying. Consumers are broadening out and taking a little more liberal view of future requirements but they are still cautious. They will warm up little by little as time goes on, it is believed, and when spot buying becomes as favorable as the contract buying the market will be in a truly satisfactory position. Prices are still maintained and concession-making has practically become a thing of the past. New price concessions will be due later in the month but it is a general impression that, because of certain unusual conditions, the new prices may not be given out until later than usual this year. The manufacturers will endeavor to maintain their prices on most of the commodities and certain of the leaders, it is said, are on the slate for an advance. It is probable, however, that they will wait as late as possible to make their announcements and it is highly probable that they may not be forthcoming before well into the month of October. At this writing the chemical men are unanimous in the belief that September business will prove of greater volume than was the September business of 1924 and that the business for the remainder of the year will run considerably ahead of the business for the same period last year.

BLANC FIXE.—The blanc fixe demand is shaping up very nicely just now. There has been a decided improvement already since the first of the month. Cautious buying over a long period has placed the consumers in a position where their reserve stock has been exhausted at the very first signs of increased demand. As a result they are coming into the market with orders which bulk up very well and there is no question but that blanc fixe is to be one of the market's brightest spots. The pulp is selling at from $60 to $70 a ton and the powder at from $75 to $90 a ton.

BLEACHING POWDER.—The bleach market is firm, the demand being very satisfactory and a fair degree of betterment having occurred since the first of the month. Consumers have no stock to speak of on hand and most of them are forced to add to their supply at this time. The present quotation is 1.90 cents a pound.

CAUSTIC SODA.—Caustic soda has started to forge ahead and the past week saw it making a very notable gain. Contract business is very good and spot buying, which has been exceedingly slow, is beginning to show animation. It is still quoted at from 3.10 to 3.15 cents a pound.

CASEIN.—Casein is doing nicely. It has been doing so well for weeks that it stands hardly in line for any sudden or great improvement but it is going ahead a trifle and is considered as being in a thoroughly healthy condition. There is no deviating from the quoted price of 12½ cents a pound.

CHINA CLAY.—China Clay has long exerted a rock-ribbed influence in the clay market and it is not only keeping up its rapid pace but is showing slight gain since the first of the month. The imported grades are selling at from $16 to $20 a ton while the domestic grades are bringing from $12 to $15 a ton.

CHLORINE.—Chlorine is rather slow about falling into line with the general improvement in the market but the demand is beginning to move forward. There is no concession giving and nothing to indicate that there will be any recession from the present quotation which is from $4.50 to $7.00 a pound in tanks.

ROSIN.—At this writing the demand for rosin is keeping up and the price has shrunk a little, falling below the $10 mark for the first time for several weeks. The naval stores centers are now quoting it at $9.85.

SALT CAKE.—Salt cake promises great things for the near future It has made pronounced strides forward since the first of September and orders are more numerous and of greater volume than they have been for some time. There is much speculation as to whether the present price will be maintained in 1926 or whether manufacturers will fix a higher figure. From $16 to $17 is still being quoted.

SODA ASH.—Soda ash remains slow. It has not lost any ground but it has not followed the general improvement in the market. This is considered somewhat strange as conditions would apparently justify a pronounced improvement in soda ash at this time. The price is 1.38 cents a pound on a flat-basis at the works.

SULPHATE OF ALUMINA.—A general movement along the lines of improvement was experienced by sulphate of alumina during the past week. There is a very promising future ahead apparently for this commodity and it is expected to show real action immediately. The commercial grades are selling at from 1.40 to 1.45 cents a pound at the Eastern Works while the iron free is quoted at from 2.10 to 2.25 cents a pound.

SULPHUR.—Sulphur continues in its usual state, contract withdrawals being consistent and according to schedule. The price is from $19 to $20 a ton.

TALC.—Talc is showing a slight gain but is still far from the position it should occupy. The price is from $17 to $18.

B. Hopper Golf Champion of Michigan

KALAMAZOO, Mich., September 8, 1925.—Kalamazoo's paper mill has been very active on the golf links of late. Bertrand Hopper, treasurer and general manager of the Kalamazoo Stationery Company, is now senior golf champion of Michigan. Playing in a tournament at Lansing, he turned in cards of 157 for 36 holes. For years Mr. Hopper has been knocking off his paper mill competitors on the links and is easily one of the best players at either the Kalamazoo Country Club or the Gull Lake Country Club.

In play for the Paper Manufacturers cup, donated by Bartlett C. Dickinson, president of the Standard Paper Company, A. E. Curtenius, secretary of the Kalamazoo Paper Company, won the cup with a net score of 71 for 18 holes. He also won the steel shaft driver given for the low gross score and several other prizes for three birdies and for landing his pill nearest the pin on green No. 12.

The prizes for the net score outside the cup winner went to George Gerpheide, vice president of the Allied Paper Mills. The Red team easily defeated the blues 20 to 8. The scores for the two teams follow:

Reds: W. M. Loveland, Watervelt Paper Company, 2; Ray Harrington, Kalamazoo Paper Company, 2; Felix Pagenstecher, Bryant Paper Company, 2; F. M. Hodge, Kalamazoo Paper Company, 1; George Gilkey, Michigan Paper Company, 1; A. F. Meisterheim, Kalamazoo Trading Company, 2; F. W. Sutherland, Sutherland Paper Company, 3; A. E. Curtenius, Kalamazoo Paper Company, 3; T. D. Earl, Michigan Paper Company, 3; C. Buskirk, Rex Paper Company, 1; John Monahan Allied Paper Mills, 0.

Blues: George Gerpheide, Allied Paper Mills, 1; Jack Otto, Allied Paper Mills, 0; A. G. Gilman, Allied Paper Mills, 0; Peter C. Servaas, Bryant Paper Company, 1; L. P. Simon, Bermingham-Prosser, 1; F. P. Eilers, Sutherland Paper Company, 0; W. A. Hodge, Western Board and Paper Company, 0; L. W. Dickinson, Standard Paper Company, 0; A. B. Milham, Bryant Paper Company, 0; L. R. Verdon, Kalbfleisch Corporation, 3; J. Lynch, Kalbfleisch Corporation, 3.

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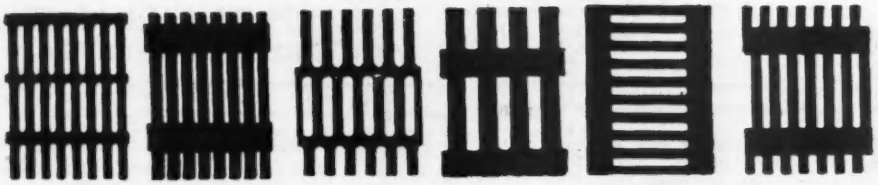

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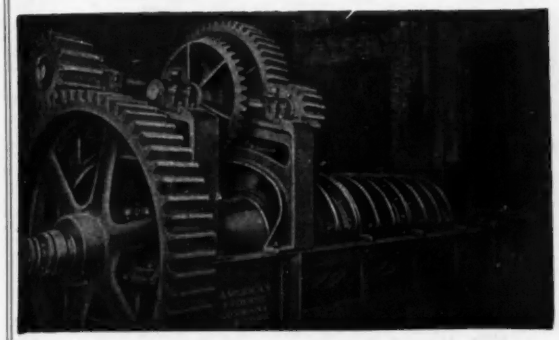

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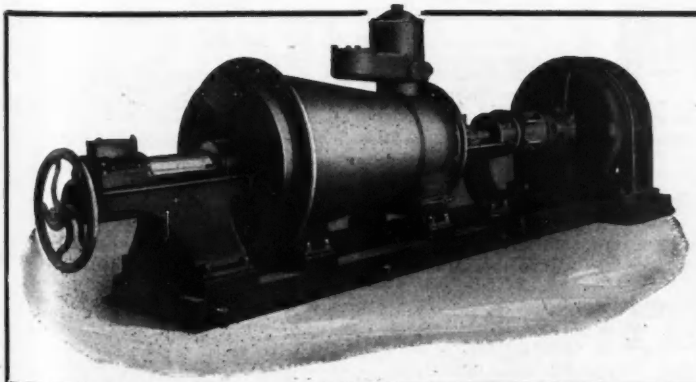

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Market Quotations

Quoted by Hepburn & Co., No. 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Abitibi Power and Paper, Gen. 6s 1940	101	103*
Advance Bag and Paper, 7s 1943	98	100*
Bastrop Pulp and Paper, 7½s 1932	104	108*
Brompton Pulp and Paper, 6s 1927	94	96
Beaver Board, 8s 1933	92	94
Bedford Pulp and Paper, 6½s 1942	98	...
Berkshire Hills Paper Co., 8s 1941	...	60
Beaver Board, N. Y. Curb, 8s 1933	93	95
Beaver Products Corp., 7½s 1942	104	106
Belgo Canadian Paper, 6s 1943	100	101
Brown Paper Co., 8s 1931	102	...
Berlin Mills, 5s 1931	98	...
Bryant Paper Co., 6s 1942	99	102*
Brown Company Serial, 6s 1925-43	97	100
Central Paper 6½s 1925-42	91	94
Cape Breton Pulp and Paper, 6s 1932	100	...
Carthage Sulphite Pulp and Paper, 8s 1941	40	50
Champion Coated Paper Co., 6s 1924-34	...	102
Champion Fibre Co. Notes, 8s 1930	101	...
Cherry River Paper, 5s 1929	98	100*
Donnaconna Paper Co., Ltd., 6s 1940	99	101
Eddy Paper, 7½s 1931	97	...
Eagle Paper, 6½s 1932	96	100
Escanaba Paper, 6s 1933	87	95*
Fox River Paper, 7s 1931	100	...
Fort Orange Paper Co., 7s 1942	95	99
Eddy Paper Co., 7½s 1931	95	...
Gilbert Paper Co., 7s 1927	96	...
Gilbert Paper Co., 6½s 1923-29	101	102*
Hammermill Paper Co., 6s 1930-39	99	...
Hercules Corp'n, 8s 1936	100	...
Hummell, Ross Fibre Corp., 7s 1925	90	...
Jessup & Moore Paper Co., 6s 1939	90	97
Kenmore Pulp and Paper Co., 6s 1937	90	...
Lake Superior Pulp and Paper, 6s 1941	105	...
Mattagami Pulp and Paper, 6s 1937	90	...
Marinette & Menominee, 7½s 1936	104	...
National Paper and Type, 6s 1947	96	99*
Oswego Falls Corp., 8s 1942	102	105
Orono Pulp and Paper, 5s 1941	93	96*
Orono Pulp and Paper, 6s 1943	97	100*
Oxford Paper Co., 6s 1947	101	...
Paterson Parchment Paper, 5½s 1927-28	98	100
Paterson Parchment, 6s 1938	98	100
Parker Young Co., 6½s 1944	92	96
Price Bros. & Co. Ltd., 6s 1943	100	102
Provincial Paper Mills, Ltd., 6s 1940	97	...
Riordon Co., Series A, 8s 1940	115	118
Riordan Paper, 6s 1924	95	...
Riordan Pulp and Paper, Ltd., 6s, 1929	33	35
River Raisin Paper, 8s 1936	104	106
St. Maurice Paper Co., Ltd., 5½s, 1929	98½	99¾
St. Regis Paper, 6½s, 1929-35	97	102
Smith (Howard) Paper Mills, 7s 1941	98	100
Smith (Howard) Paper Mills, 6s 1934	98	...
St. Croix Paper, 5s 1923-37	95	...
Stevens & Thomson Paper, 6s 1942	88	92
Spanish River Pulp and Paper, 6s 1931	105	108
Spanish River Pulp and Paper, Gen 8s 1941	106	109
Ticonderoga Pulp and Paper Co., 6s, 1940	91	95
Ticonderoga Pulp & Paper 1-5, 1930	88	93
S. D. Warren Company, 6s, 1945	97	100
Whittaker Paper, 1st 7s 1942	96	98
Watab Paper Co., 6½s 1942	100	104
Waterway Paper Products, 7s 1924-27	95	100
Wayagamack Pulp and Paper, Ltd., 6s 1951	87	90

STOCKS	BID	ASKED
Abitibi Power and Paper, Com	65	68
Abitibi Power and Paper, Pfd.	104	...
Advance Bag and Paper, Com.	8	12*
Advance Bag and Paper, Pfd.	77	...
Beaver Board, Com.	4	6
Beaver Board, Pfd.	32	35
Bryant Paper, Cap.	12	...
Bryant Paper, Pfd.	9	...
Chicago Mill & Lumber Co., Com.	63	...
Chicago Mill & Lumber Co., Pfd.	98	104
Crown Williamette, Com.	93	98*
Crown Williamette, 7% A, Pfd.	98	SW
Donnaconna Paper, Com.	42	48
Donnaconna Paper, Pfd.	93	98*
Great Northern Paper, Cap.	260	270
Jessup & Moore Paper, Pfd.	75	80
International Paper Co., Com.	65	68
International Paper Co., Pfd. 6%	75	80
Mengel Company, Com.	64	68
Mengel Company, Pfd.	83	93
Oxford Papers, Com.	93	97
Oxford Paper Co., Pfd.	98	...
Provincial Paper Co., Com.	94	98
Provincial Paper Co., Pfd.	99	...
Price Brothers, Cap.	39	40
St. Croix Paper	185	215
St. Maurice Paper Co., Cap.	82	85
St. Regis Paper Co., Cap.	54	56
Spanish River Pulp and Paper, Com.	104	105
Spanish River Pulp and Paper, Pfd.	115	117
Ticonderoga Pulp and Paper, Cap.	145	...
West Virginia Pulp and Paper, Cap.	44	47
West Virginia Pulp and Paper, Pfd.	95	130
Whittaker Paper, Com.	25	35
Whittaker Paper, Pfd.	55	...

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub Sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.50	@ 3.90
Rolls, transit	3.75	@ 4.25
Sheets	4.00	@ 4.25
Side Runs	3.25	@ 4.00
Book, Cased—		
S. & S. C.	7.00	@ 9.75
M. F.	6.25	@ 8.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream		
White No. 1	.70	@ .90
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.65	@ .75
Kraft	.85	@ .95
Manila	.70	@ .80
Kraft—		
No. 1 Domestic	5.75	@ 6.25
No. 2 Domestic	5.10	@ 5.50
Imported	5.50	@ 5.75
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	4.50	@ 5.00
No. 2 Fibre	4.25	@ 4.75
Common Bogus	2.50	@ 2.75
S. Screening	3.00	@ 3.50
Card Middles	4.00	@ 5.00
Boards—per ton—		
News	45.00	@47.50
Straw	57.00	@60.00
Chip	42.00	@45.00
Binders' Boards	72.50	@77.50
Sgl. Mla. Ll. Chip	58.00	@60.00
Wood Pulp	70.00	@75.00
Container	62.50	@67.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.75	@ 2.00
Ground Wood—		
Screenings	20.00	@25.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	33.00	@37.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@32.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	4.00	@ 4.50
Easy Bleaching	3.10	@ 3.40
No. 1 strong unbleached	2.90	@ 3.25
No. 2 strong unbleached	2.55	@ 2.85
No. 1 Kraft	2.95	@ 3.15
Sulphate—		
Bleached	3.65	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.85	@ 4.50
Easy Bleaching Sulphite	3.00	@ 3.25
News Sulphite	2.55	@ 2.80
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.75	@ 3.25
Soda Bleached	4.00	@ 4.25

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	14.25	@15.00
New White, No. 2	8.00	@10.00
Silesias No. 1	10.50	@11.50
New Unbleached	14.00	@15.00
Washables	6.50	@ 9.25
Fancy	9.75	@10.25
Blue Overall	10.00	@11.00
New Blue Prints	7.50	@ 8.50
New Soft Blacks	5.75	@ 6.20
Mixed Khaki Cuttings	7.00	@ 8.00
Pink Corset Cuttings	10.25	@10.75
Pink Muslin	10.00	@10.50
New Light Seconds	3.25	@ 3.50
O. D. Khaki Cuttings	7.00	@ 8.00
Men's Corduroy	6.25	@ 6.75
New Mixed Blacks	4.00	@ 4.50

Old Rags

White, No. 1—		
Repacked	6.50	@ 7.50
Miscellaneous	6.50	@ 7.00
White, No. 2—		
Repacked	4.25	@ 4.50
Miscellaneous	3.75	@ 4.25
St. Soiled, White	3.00	@ 3.50
Thirds and Blues—		
Repacked	4.00	@ 4.25
Miscellaneous	3.25	@ 3.60
Black Stockings	3.75	@ 4.25
Roofing Rags—		
Cloth Strippings	2.50	@ 2.75
No. 1	2.40	@ 2.50
No. 2	2.40	@ 2.50
No. 3	2.25	@ 2.50
No. 4	2.30	@ 2.40
No. 5A	1.50	@ 1.75

Foreign Rags

New Light Silesias	9.50	@10.50
Light Flannelettes	10.50	@11.50
Unbleached Cottons	14.00	@15.00
New White Cuttings	14.00	@15.00
New Light Oxfords	10.00	@11.00
New Light Prints	9.00	@10.00
New Mixed Cuttings	4.25	@ 4.50
New Dark Cuttings	4.25	@ 4.75
No. 1 White Linens	10.00	@11.00
No. 2 White Linens	7.25	@ 8.25
No. 3 White Linens	6.25	@ 6.75
No. 4 White Linens	4.50	@ 5.50
Old Extra Light Prints	4.25	@ 4.75
Ord. Light Prints	3.50	@ 4.00
Med. Light Prints	3.00	@ 3.50
Dutch Blue Cottons	4.00	@ 4.50
Ger. Blue Cottons	3.25	@ 3.75
Ger. Blue Linens	4.25	@ 4.75
Checks and Blues	3.25	@ 3.50
Linsay Garments	2.50	@ 2.60
Dark Cottons	2.35	@ 2.45
Shoppery	2.25	@ 2.35
French Blues	4.00	@ 4.50

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—		
Foreign	3.15	@ 3.25
Domestic	3.15	@ 3.25
Wool Tares, light	2.50	@ 2.60
Wool, Tares, heavy	2.60	@ 2.70
Bright, Bagging	2.55	@ 2.65
Mixed Bagging	2.30	@ 2.40
Sound Bagging	2.10	@ 2.20
Roofing Bagging	2.00	@ 2.10
Manila Rope—		
Foreign	5.65	@ 6.00
Domestic	6.50	@ 7.00
New Bu. Cut	3.60	@ 3.85
Hessian Jute Threads—		
Foreign	4.00	@ 4.25
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.50	@ 3.70
Hard, White, No. 2	3.25	@ 3.50
Soft, White, No. 1	2.80	@ 2.90
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag	1.25	@ 1.40
Solid Flat Book	1.25	@ 1.40
Crumpled No. 1	1.25	@ 1.35
Solid Book Ledger	1.70	@ 1.80
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.25	@ 2.40
New Cut. No. 1	1.85	@ 2.25
Extra No. 1 old	1.40	@ 1.50
Print	1.20	@ 1.30
Container Board	.70	@ .90
Bogus Wrapper	1.00	@ 1.10
Old Krafts Machine compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.85	@ 2.00
Strictly Overissue	1.05	@ 1.15
Strictly Folded	.75	@ .85
No. 1 Mixed Paper	.65	@ .70
Common Paper	.50	@ .55

Twines

Cotton—(F. o. b. Mill)—		
No. 1	.42	@ .45
No. 2	.41	@ .43
No. 3	.40	@ .42
India, No. 6 basis—		
Light	.19	@ .20
Dark	.17	@ .19
B, C, 18 basis	.39	@ .41
A. B. Italian, 18 Basis	.56	@ .61

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Finished Jute—			
Dark, 18 basis...	.30	@	.31
Light, 18 basis..	.28	@	.30
Jute Wrapping, 3-6 Ply—			
No. 1	.18	@	.20
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger..	.15	@	.17
Fine Tube Yarn—			
5-ply and larger.	.20	@	.28
4-ply	.21	@	.24
3-ply	.22	@	.25
Unfinished India—			
Basis	.14	@	.15
Paper Makers' Twine Balls	.12	@	.13
Box Twine, 2-3 ply	.14	@	.15
Jute Rope	.20	@	.40
Ameri. Hemp, 6...	.30	@	.32
Sisal Hay Rope—			
No. 1 Basis	.14	@	.16
No. 2 Basis.....	.10	@	.12
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

CHICAGO

Paper

F. o. b. Mill

All Rag Bond.....	35	@	40
No. 1 Rag Bond...	25	@	35
No. 2 Rag Bond...	14	@	25
Water Marked Sulphite	9	@	12
Sulphite Bond.....	7	@	10¾
Sulphite Ledger....	9	@	12
Superfine Writing..	18	@	24
No. 1 Fine Writing	14	@	18
No. 2 Fine Writing	12	@	14
No. 3 Fine Writing	9	@	12
No. 1 M. F. Book.	5½	@	7½
No. 1 S. & S. C. Book	6	@	7¾
Coated Book.....	7½	@	10
Coated Label.....	7½	@	10
News—Roll, mill...	3½	@	4¼
News—Sheets, mill	3¾	@	4½
No. 1 Manila.....	4½	@	5½
No. 1 Fibre.....	4½	@	5
No. 2 Manila.....	4	@	4½
Butchers' Manila..	3¼	@	4¼
No. 1 Kraft.....	6	@	6½
No. 2 Kraft (Southern Grade).....	4	@	4½
No. 2 Kraft (Northern Grade).....	5	@	5¼
Wood Tag Boards.	4¼	@	6¼
Sulphite Screenings	3	@	3¼
Manila Tissue, 24x36 sheet	7¼	@	7¾
White Tissue, 20x30 sheet	7¼	@	7½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip 45.00		@47.50	
Solid News.....47.50		@50.00	
Manila Line Chip.57.50		@60.00	
Container Lined—			
(Delivered Central Territory)			
℔5 Test	—	@75.00	
100 Test	—	@80.00	

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.25	@	3.50
White Envel. Cuttings	3.15	@	3.25
No. 1 Soft Shav.	2.90	@	3.10
No. 1 Mixed.....	1.45	@	1.50
No. 2 Mixed.....	1.15	@	1.20
Ledger and Writings	1.55	@	1.60
Solid Books	1.45	@	1.50
No. 1 Light Books	1.00	@	1.05
Blanks	2.00	@	2.10
Kraft	2.25	@	2.35
New Kraft Cuts.	2.50	@	2.60
Manila Envelope Cuttings	2.50	@	2.60
Ex. No. 1 Manila..	2.25	@	2.35
Print Manila	1.05	@	1.10
Folded News (oversue)	.90	@	.95
Old Newspapers—			
No. 1	.80	@	.85
No. 2	.65	@	.70
Mixed Papers—			
No. 1	.75	@	.80
No. 2	.55	@	.60
Straw Clippings....	.75	@	.80
Binders' Cuppings..	.75	@	.80
Roofing Stocks, f. o. b. Chicago, Net Cash—			
No. 1.....47.00		@52.00	
No. 2.....45.00		@50.00	
No. 3 .....43.00		@48.00	
No. 4.....41.00		@46.00	

BOSTON

Paper

Ledgers—			
Sulphite	.08½	@	.18
Rag content	.18	@	.36½
All Rag	.38	@	.50
Bonds—			
Sulphite	.07½	@	.10½
Rag Content.....	.17	@	.45
All Rag	.36½	@	.51
Writings	.08	@	.20
Superfines	.22	@	.50
News	.04	@	.04½
Book, Super	.08	@	.10
Book, Coated	.09	@	.14
Coated Litho.....	.09½	@	.15
Label	.09½	@	.15
Jute Manila No. 1.	.11	@	.12
Manila, Sul. No. 1.	.05	@	.05
Manila, Sul. No. 2.	.03¼	@	.04½
No. 1 Kraft.....	.06¼	@	.06½
No. 2 Kraft.....	.05¼	@	.06
Common Bogus....	.03½	@	.04
Straw Board	—	@	50.00
News Board	—	@	50.00
Chip Board	—	@	47.50
Single Manila Pulp lined board 55.00		@60.00	
Single White, patent coated board 75.00		@82.50	
Wood Pulp Board..80.00		@85.00	
Binder Boards.....75.00		@85.00	
Tarred Felts—			
Regular 61.00		@63.00	
Slaters 66.00		@68.00	
Best Tarred, 1 Ply, roll	1.50	@	1.60
Best Tarred, 2 Ply, roll	1.70	@	1.80
Best Tarred, 3 Ply, roll	2.00	@	2.10

Old Papers

Shavings—			
No. 1 Hard White	4.00	@	3.75
White Blank News	1.75	@	2.00
Manila Env. Cuttings	2.80	@	3.00
No. 2 Hard White	3.25	@	3.50
No. 1 Soft White..	.04½	@	—
No. 2 Soft White..	.03¼	@	—
No. 1 Mixed.....	1.60	@	1.75
No. 2 Mixed.....	1.25	@	1.50
Solid Ledger Stock	2.00	@	1.75
Writing Paper	—	@	1.50
No. 1 Books, Heavy	1.25	@	—
No. 1 Books, Light	—	@	1.25
No. 1 New Manila.	2.50	@	2.60
No. 1 Old Manila.	1.75	@	2.00
Print Manila	1.05	@	1.20
Old Kraft	2.25	@	—
Overissue News ..	1.00	@	6.54
Old Newspapers....	.70	@	5.54
No. 1 Mixed Paper	.60	@	.47½
Box Board, Chip..	.60	@	.50

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	—	@	3.00
Domestic	—	@	3.00
Manila Rope	6.00	@	6.50
Mixed Rope	2.00	@	—
Scrap burlaps ...	—	@	2.37½
Wool Tares, heavy.	—	@	3.00
Mixed Strings...	—	@	1.90
New Burlap Cuttings	—	@	3.75

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.15½	@	.15
Silesias, No. 1...	.11	@	—
New Unbleached.	.14¼	@	.15
Washable	.07¾	@	.08
Fancy	.10½	@	—
Cottons—According to Grades—Blue—			
Blue overalls.....	12½	@	—
New Black, soft...	.07	@	—
Khaki Cuttings.....	.07	@	—
Corduroy	.04	@	.05
New Canvas	.12	@	.12½

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1	10.00	@	—
Repacked	9.50	@	—
Miscellaneous	8.50	@	—
White No. 2—			
Repacked	6.50	@	—
Miscellaneous.....	5.25	@	—
Thirds and Blues—			
Repacked	5.00	@	—
Miscellaneous ...	3.50	@	—
Roofing Stock—			
No. 1	3.00	@	—
No. 2	3.00	@	—
No. 3	2.50	@	—
No. 4	2.00	@	—

PHILADELPHIA

Paper

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2.....	.16	@	.25
Fine, No. 3.....	.12	@	.20
Book, M. F.....	.06¼	@	.07
Book, S. S. & C...	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph.	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila.	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila No. 2.....	.04	@	.04½
No. 2 Kraft.....	.05¼	@	.05¾
No. 1 Kraft.....	.06¼	@	.06½
Common Bogus ...	.02¾	@	—
Straw Board 56.00		@55.00	
News Board 47.50			
Chip Board 50.00			
Wood Pulp Board. 4.50 (Carload Lots)		@	5.00
Binder Boards—			
Per ton 75.00		@80.00	
Carload lots 65.00		@70.00	
Tarred Felts—			
Regular 66.00		&68.00	
Slaters 70.00		@72.00	
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply.	2.10	@	2.15

Bagging

F. o. b. Phila.

Gunny, No. 1—			
Foreign	3.00	@	3.25
Domestic	3.00	@	3.25
Manila Rope	4.75	@	6.00
Sisal Rope	2.50	@	—
Mixed Rope	1.00	@	1.25
Scrap Burlaps...	2.25	@	2.50
Wool Tares, heavy.	2.00	@	2.13
Mixed Strings...	1.25	@	—
No. 1, New Lt. Burlap	3.50	@	3.75
New Burlap Cuttings	3.25	@	3.50

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.60	@	2.70
No. 2 Soft White	2.00	@	2.20
No. 1 Mixed....	1.50	@	1.60
No. 2 Mixed....	1.00	@	1.10
Solid Ledger Stock.	1.75	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.30	@	1.40
No. 2 Books, light.	1.20	@	1.25
No. 1 New Manila.	1.80	@	2.00
No. 1 Old Manila..	1.60	@	1.75
Print Manila.....	1.25	@	1.35
Container Manila..	1.00	@	1.10
Old Kraft	2.00	@	2.10
Over issue News...	1.00	@	1.10
Old Newspaper....	.70	@	.75
No. 1 Mixed Paper	.65	@	.70
Common Paper....	.50	@	.60
Straw Board, Chip.	.60	@	.65
Binders Bd., Chip..	.60	@	.65

Domestic Rags—New

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.13½	@	.14
New White, No. 2	.06	@	.08
Silesias, No. 1...	.10½	@	.11
New Unbleached.	.14	@	.14½
Washable	.07¼	@	.07¾
Fancy	.09½	@	.10
Cottons—according to grades—			
Blue Overall.....	.11	@	.11½
New Blue.....	.04	@	.04¼
New Black Soft..	.06	@	.06¾
New Light Seconds	.03½	@	.03¾
Khaki Cuttings..	.06½	@	.07
Corduroy	.04	@	.04½
New Canvas	.08¾	@	.09
New Black Mixed	.05	@	.05½

Old

White, No. 1—			
Repacked	6.75	@	7.00
Miscellaneous ...	6.25	@	6.50
White, No. 2—			
Repacked	.05	@	.05¼
Miscellaneous ...	.04¾	@	.05
Thirds and Blues—			
Repacked	3.75	@	4.00
Miscellaneous ...	3.15	@	3.25
Black Stockings.	4.25	@	4.50
Roofing Stock—			
No. 1	2.00	@	2.15
No. 2	1.90	@	2.00
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	1.10	@	1.15
B	1.05	@	1.10
C	1.00	@	1.05

TORONTO

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.10½	@	.12½
Light tinted	.11	@	.13½
Dark tinted	.12½	@	.15
Ledgers (sulphite).	—	@	.13
Ledgers No. 1.....	.36	@	—
Ledgers No. 2.....	.27	@	—
Writing	.09½	@	
Writing S. C.....	.10	@	
News f. o. b. Mills—			
Rolls (carloads)..	3.50	@	—
Sheets (carloads)..	—	@	4.25
Sheets (2 tons or over)	—	@	4.60
Book—			
No. 1 M. F. (carloads)	8.00	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.50	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and litho 14.50		@	—
No. 2 Coated and litho 13.50		@	—
No. 3 Coated and litho 12.75		@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.75	@	—
White Rag	5.25	@	—
"B" Manila	5.50	@	—
No. 1 Manila	6.50	@	—
Fiber	6.50	@	—
Kraft, M. F.....	7.00	@	—
M. G.	7.15	@	—

Pulp

(F. o. b. Mill)

Ground wood.....29.00		@30.00	
Sulphite easy bleaching 60.00		@65.00	
Sulphite news grade	55.00	@58.00	
Sulphite, bleached.	75.00	@80.00	
Sulphate 62.50		@65.00	

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. cut..	3.60	@	—
Soft White Book shavings	—	@	3.10
White Blk, News	1.70	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers ...	1.40	@	—
Manilas—			
New Manila Cut.	—	@	1.60
Printed Manilas..	1.00	@	—
Kraft	2.10	@	2.10
News and Scrap—			
Strictly Overissue	.80	@	—
Folded News.....	.80	@	—
No. 1 Mixed Papers	.55	@	—

Domestic Rags—
Price to mills, f. o. b. Toronto Per lb.

No. 1 White shirt cuttings	.14½	@	.14¾
No. 2 White shirt cuttings	.08	@	.08½
Fancy shirt cuttings	.09¾	@	.10
No. 1 Old Whites..	—	@	—
Third and blues...	—		—